

codex alimentarius commission



FOOD AND AGRICULTURE
ORGANIZATION
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WORLD
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Agenda Item 7

CX/FA 09/41/9 Add.1

March 2009

(Original Language Only)

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON FOOD ADDITIVES

Forty-first Session

Shanghai, China, 16-20 March 2009

PROPOSALS FOR CHANGES AND/OR ADDITION TO THE INTERNATIONAL NUMBERING SYSTEM FOR FOOD ADDITIVES (REPLIES TO CL 2008/10-FA, PARTB, POINT 13)

The following comments have been received from the following Codex members and observers:

European Community, India, CIAA, IFAC and OFCA

European Community

In response to CL 2008/10-FA, the European Community and its Member States (ECMS) would like to make the following suggestions.

The ECMS request that the following food additive is allocated an INS number and included in the Codex International Numbering System.

Proposed INS number	Name	Technical Function
INS 392	Rosemary extract	Antioxidant

In addition, the ECMS would welcome some clarification about the following food additives glycerol diacetate (synonyms diacetin; glyceryl diacetate; INS 1517) and benzyl alcohol (INS 1519):

These substances do not appear in the International Numbering System for food additives list (CAC/GL 36-1989). However, they are included in the list of Codex specifications (CAC/MISC 6) under the respective names "glycerol diacetate" and "benzyl alcohol" but without INS numbers.

Therefore, the ECMS suggest allocating these food additives with INS numbers and including them in the INS list as well as eventually specifying their INS numbers in the Codex specification list and in the corresponding JECFA monographs.

Proposed INS number	Name	Technical Function
INS 1517	Glycerol diacetate	Carrier
INS 1519	Benzyl alcohol	Carrier

The ECMS would like to request that the following food additive is allocated a new technical function in the Codex International Numbering System.

Proposed INS number	Name	Technical Function
INS 1521	Polyethylene glycol	Glazing agent

India

The International Numbering System (INS) be revised to include the use of Curcumin (INS 100) for the technological purpose of antioxidant property. The use of Curcumin as antioxidant along with the technological function as color is consistent with the current JECFA specification for Curcumin.¹

The INS be revised to include the use of magnesium sulfate (INS 518) for the technological purpose of flavor enhancer. Such use is consistent with the current JECFA specification for magnesium sulfate.²

¹ 61st JECFA, Chemical and Technical Assessment, pg no.6 (8)

CX/FA 09/41/9 Add.1

To add the following functions for the food additives listed below:

INS 400 Alginic Acid - Foaming Agent, Carrier, Humectant, Sequestrant

INS 401 Sodium Alginate - Foaming Agent, Carrier, Humectant, Sequestrant

INS 402 Potassium Alginate - Foaming Agent, Carrier, Humectant, Sequestrant

INS 403 Ammonium Alginate - Foaming Agent, Carrier, Humectant, Sequestrant

INS 404 Calcium Alginate - Foaming Agent, Carrier, Humectant, Sequestrant

INS 405 Propylene Glycol Alginate, Propylene Glycol Alginate - Foaming Agent, Carrier, Gelling Agent

INS 407 Carrageenan - Carrier, Humectant, Glazing Agent

INS 407a Processed Eucheuma Seaweed - Carrier, Humectant, Glazing Agent

INS 425 Konjac, Konjac Gum, Konjac Glucomannate - Bulking Agent, Carrier, Firming Agent, Humectant

INS 460 (i) Powdered Cellulose - Humectant, Glazing Agent

INS 460 (ii) Microcrystalline Cellulose - Bulking Agent, Carrier

INS 466 Sodium Carboxymethylcellulose - Firming Agent, Gelling Agent

CIAA (the Confederation of the Food and Drink manufacturing industries of the EU)

According to the CCFA 40th Report and upon request of Brazil, gelatine was included into the list of Food Additives with the INS number 428.

This is considered to be critical for the following reasons:

1. For years now, gelatine has been used safely as a foodstuff as well as an ordinary food ingredient. Due to its excellent characteristics it can also be used for technical purposes in food production. In any case, gelatine is not an additive but remains a foodstuff. And subsequently as such, several national authorities have acknowledged it in the past.

2. We would also like to draw your attention on the fact, that the definition of Food Additives in European Legislation is comparable to the definition in Codex Alimentarius. Whereas, in the Commission Directive N°95/2/EC on Food Additives other than colours and sweeteners (in Article 1 paragraph 5f), Gelatine is NOT defined as Food Additive.

For these reasons, we propose to exclude gelatine from the INS for Food Additives and to consider it as an ingredient.

OFCA(The Organisation des Fabricants de produits Cellulosiques Alimentaires)

The Organisation des Fabricants de produits Cellulosiques Alimentaires (OFCA) represents the global association of manufacturers of food grade cellulose derivatives (INS 460-469) and is recognized by the Codex Alimentarius as an official Non Governmental Organisation.

Microcrystalline Cellulose (INS 460i) has been allocated an ADI of not specified by the Codex Alimentarius. It has been included in Table III of the General Standard on Food Additives.

The name “Cellulose Gel” has been in use for many years for labelling food products in the United States. With the publication of the 4th edition of The Food Chemicals Codex (National Academy of Sciences, 1996), “Cellulose Gel” became the common or usual name for microcrystalline cellulose while microcrystalline cellulose is used as synonym. In the current JECFA specifications for microcrystalline cellulose the name “Cellulose Gel” is listed as a synonym.

With the objective to achieve a globally harmonized nomenclature for INS 460i, OFCA respectfully requests the Codex Committee on Food Additives to consider allocating the name “Cellulose Gel” as dual name for Microcrystalline Cellulose.

IFAC (The International Food Additives Council)

For item number 13, “**Proposals for Changes and/or addition to the Codex International Numbering System (INS) for Food Additives (para. 153),**” please see Appendix below to the this document, a chart entitled, “International Numbering System and Technological Purpose for Food Additives” that provides the INS numbers for phosphates, the technological purpose as listed in ALINORM 08/31/12 Appendix XII, and IFAC’s recommendations. For comparison, also included in this table is the technological purpose for phosphates as listed in JECFA monographs, as well as technological purposes for phosphates as recommended by Food Chemicals Codex (FCC) monographs.

² 68th JECFA, Chemical and Technical Assessment, pg no.3 (5)

CX/FA 09/41/9 Add.1

Also, in response to item number 13, IFAC recommends adding the following functions for the food additives listed below:

INS 407 carrageenan – Glazing agent (coating agent)*

INS 462 ethylcellulose - Glazing Agent (coating agent), thickener

INS 461 methylcellulose - Glazing Agent (coating agent), thickener

INS 460(i) microcrystalline cellulose - Glazing Agent (coating agent)

INS 463 hydroxypropyl cellulose - Glazing Agent (coating agent), foaming agent

INS 464 hydroxypropyl methyl cellulose - Glazing Agent (coating agent), thickener

INS 466 sodium carboxymethyl cellulose - Glazing Agent (coating agent)

INS 1200 polydextrose - Glazing Agent (coating agent)

INS 1521 polyethylene glycol - Emulsifier (plasticizer)**

INS 1503 castor oil - Emulsifier (plasticizer)

INS 1505 triethyl citrate - Emulsifier (plasticizer)

INS 1518 triacetin - Emulsifier (plasticizer)

*Film coating is a process by which a thin, polymer-based coating agent is applied to the surface of an appropriate substrate. These additives are used in aqueous film coating for several foods and food supplements. The coating agents provide good film strength, substrate adhesion qualities and moisture barrier/protection properties against oxidation. For food supplements, the coating agents protect the ingredients from moisture, oxygen and other environmental conditions, thus ensuring the long-term stability of the product while simultaneously masking their taste and odor. Coating agents facilitate the ingestion and swallowing of food supplement tablets.

**Most polymers used in film coating are essentially amorphous and exhibit a well-defined glass transition temperature (T_g). The glass transition temperature of a coating agent is the temperature at which the polymer changes from a glass to a rubbery state. Under normal film coating process conditions, polymers are in the glassy state, and thus rigid and tough, but brittle. In order to increase the polymer flexibility for a film, it is necessary to reduce its glass transition temperature with the use of a plasticizer. These plasticizers (emulsifiers) are very effective at lowering the glass transition temperature (T_g) of glazing agents (coating agents) and confer good elasticity to the film that is formed. For example, polyethylene glycol is an excellent plasticizer and is frequently used for cellulosic polymer coating systems.

“International Numbering System and Technological Purpose for Food Additives” (IFAC comments)

INS #	Name of Food Additive	Technological Purpose (ALINORM 08/31/12 Appendix XII)	Functional Uses Listed in JECFA Monographs	Functional Uses Listed in FCC (6th ed.) Monographs	IFAC Recommendations
339	Sodium Phosphates	Acidity Regulator, Sequestrant, Emulsifier, Texturizing agent, Stabilizer, Moisture-retention agent			<i>General Categories should not have technological purposes listed; they are dependent on the specific phosphate within the category</i>
339(i)	Monosodium Orthophosphate	Acidity regulator, Sequestrant, Emulsifier, Texturizing agent, Stabilizer, Moisture-retention agent	Acidity regulator, sequestrant	Buffer, emulsifier, nutrient	Acidity regulator, Emulsifier, Nutrient
339(ii)	Disodium Orthophosphate	Acidity regulator, Sequestrant, Emulsifier, Texturizing agent, Stabilizer, Moisture-retention agent	Emulsifier, Texturizer, Buffer	Emulsifier, texturizer, buffer, nutrient	Acidity regulator, Emulsifier, Texturizer, Nutrient
339(iii)	Trisodium Orthophosphate	Acidity regulator, Sequestrant, Emulsifier, Texturizing agent, Stabilizer, Moisture-retention agent	Buffer, Sequestrant, Emulsion Stabilizer	Antimicrobial, buffer, emulsifier, nutrient	Acidity regulator, Emulsifier, Antimicrobial synergist, Nutrient
340	Potassium Orthophosphates	Acidity regulator, Sequestrant, Emulsifier, Texturizing agent, Stabilizer, Moisture-retention agent			<i>General Categories should not have technological purposes listed; they are dependent on the specific phosphate within the category</i>
340(i)	Monopotassium Orthophosphate	Acidity regulator, Sequestrant, Emulsifier, Texturizing agent, Stabilizer, Moisture-retention agent	Buffer, Neutralizing agent, Sequestrant, Yeast food	Buffer, sequestrant, yeast food	Acidity regulator, Sequestrant, Nutrient
340(ii)	Dipotassium Orthophosphate	Acidity regulator, Sequestrant, Emulsifier, Texturizing agent, Stabilizer, Moisture-retention agent	Buffering agent, Sequestrant, Yeast food	Buffer, sequestrant, yeast food	Acidity regulator, Sequestrant, Nutrient
340(iii)	Tripotassium Orthophosphate	Acidity regulator, Sequestrant, Emulsifier, Texturizing agent, Stabilizer, Moisture-retention agent	Buffer, Emulsion stabilizer, Sequestrant	Emulsifier	Acidity regulator, Emulsifier, Sequestrant
341	Calcium Phosphates	Acidity regulator, Flour treatment agent, Firming agent, Texturing agent, Raising agent Anticaking agent, Moisture-retention agent			<i>General Categories should not have technological purposes listed; they are dependent on the specific phosphate within the category</i>
341(i)	Monocalcium Orthophosphate	Acidity regulator, Flour treatment agent, Firming agent, Texturing agent, Raising agent Anticaking agent, Moisture-retention agent	Buffering agent, Firming agent, Sequestrant, Leavening agent, Dough conditioner, Texturizer, Yeast food, Nutrient	Buffer, dough conditioner, firming agent, leavening agent, nutrient, yeast food, sequestrant	Acidity regulator, Firming agent, Sequestrant, Raising agent, Dough conditioner, Yeast food, Nutrient
341(ii)	Dicalcium Orthophosphate	Acidity regulator, Flour treatment agent, Firming agent, Texturing agent, Raising agent Anticaking agent, Moisture-retention agent	Dough conditioner, Yeast food	Leavening agent, dough conditioner, nutrient, yeast food	Raising agent, Dough conditioner, Yeast food, Nutrient

CX/FA 09/41/9 Add.1

INS #	Name of Food Additive	Technological Purpose (ALINORM 08/31/12 Appendix XII)	Functional Uses Listed in JECFA Monographs	Functional Uses Listed in FCC (6th ed.) Monographs	IFAC Recommendations
341(iii)	Tricalcium Orthophosphate	Acidity regulator, Flour treatment agent, Firming agent, Texturing agent, Raising agent Anticaking agent, Moisture-retention agent	Anticaking agent, Buffer	Anticaking agent, buffer, nutrient, clouding agent	Anticaking agent, Acidity regulator, Nutrient, Clouding agent
450	Diphosphates	Emulsifier, Stabilizer, Acidity regulatory, Raising agent, Sequestrant, Moisture-retention agent			<i>General Categories should not have technological purposes listed; they are dependent on the specific phosphate within the category</i>
450(i)	Disodium Diphosphate	Emulsifier, Stabilizer, Acidity regulatory, Raising agent, Sequestrant, Moisture-retention agent	Raising agent, Buffering agent, Sequestrant	Buffer, emulsifier, leavening agent, sequestrant	Raising agent, Acidity regulator, Sequestrant, Emulsifier
450(ii)	Trisodium Diphosphate	Emulsifier, Stabilizer, Acidity regulatory, Raising agent, Sequestrant, Moisture-retention agent	No JECFA monograph	No FCC monograph	Sequestrant, Emulsifier, Texturizer, Moisture-retention agent
450(iii)	Tetrasodium Diphosphate	Emulsifier, Stabilizer, Acidity regulatory, Raising agent, Sequestrant, Moisture-retention agent	Emulsifier, Buffering agent, Emulsifying agent, Sequestrant	Emulsifier, buffer, nutrient, sequestrant, texturizer	Emulsifier, Acidity regulator, Sequestrant, Texturizer, Moisture-retention agent
450(iv)	Dipotassium Diphosphate	Emulsifier, Stabilizer, Acidity regulatory, Raising agent, Sequestrant, Moisture-retention agent	No JECFA monograph	No FCC monograph	
450(v)	Tetrapotassium Diphosphate	Emulsifier, Stabilizer, Acidity regulatory, Raising agent, Sequestrant, Moisture-retention agent	Emulsifier, Texturizer	Emulsifier, Texturizer	Emulsifier, Acidity regulator, Sequestrant, Texturizer, Moisture-retention agent
450(vi)	Dicalcium Diphosphate	Emulsifier, Stabilizer, Acidity regulatory, Raising agent, Sequestrant, Moisture-retention agent	Buffering agent, Neutralizing agent, Yeast food	Buffer, neutralizing agent, nutrient	Acidity regulator, Nutrient, Yeast food
450(vii)	Calcium Dihydrogen Diphosphate	Emulsifier, Stabilizer, Acidity regulatory, Raising agent, Sequestrant, Moisture-retention agent	Stabilizer, Leavening agent, Emulsifier, Nutrient	Leavening agent, nutrient	Stabilizer, Raising agent, Emulsifier, Nutrient
450(viii)	Dimagnesium Diphosphate	Emulsifier, Stabilizer, Acidity regulatory, Raising agent, Sequestrant, Moisture-retention agent	No JECFA monograph	No FCC monograph	
451	Triphosphates	Sequestrant, Acidity regulator, Texturizing agent			<i>General Categories should not have technological purposes listed; they are dependent on the specific phosphate within the category</i>
451(i)	Pentasodium Triphosphate	Sequestrant, Acidity regulator, Texturizing agent	Sequestrant, Texturizer	Emulsifier, sequestrant	Sequestrant, Emulsifier, Texturizer, Moisture-retention agent
451(ii)	Pentapotassium Triphosphate	Sequestrant, Acidity regulator, Texturizing agent	Texturizer	Texturizer	Sequestrant, Emulsifier, Texturizer, Moisture-retention agent

CX/FA 09/41/9 Add.1

INS #	Name of Food Additive	Technological Purpose (ALINORM 08/31/12 Appendix XII)	Functional Uses Listed in JECFA Monographs	Functional Uses Listed in FCC (6th ed.) Monographs	IFAC Recommendations
452	Polyphosphates	Emulsifier, Stabilizer, Acidity regulatory, Raising agent, Sequestrant, Moisture-retention agent			<i>General Categories should not have technological purposes listed; they are dependent on the specific phosphate within the category</i>
452(i)	Sodium Polyphosphates	Emulsifier, Stabilizer, Acidity regulatory, Raising agent, Sequestrant, Moisture-retention agent	Emulsifier, Sequestrant, Texturizer	Emulsifier, sequestrant, texturizer	Emulsifier, Sequestrant, Texturizer, Moisture-retention agent
452(ii)	Potassium Polyphosphates	Emulsifier, Stabilizer, Acidity regulatory, Raising agent, Sequestrant, Moisture-retention agent	Emulsifier, Moisture-retaining agent, Sequestrant, Texturizer	Emulsifier, moisture-retaining agent	Emulsifier, Moisture-retention agent, Sequestrant, Texturizer
452(iii)	Sodium Calcium Polyphosphate	Emulsifier, Stabilizer, Acidity regulatory, Raising agent, Sequestrant, Moisture-retention agent	Stabilizer, Leavening agent, Emulsifier, Nutrient	No FCC monograph	
452(iv)	Calcium Polyphosphate	Emulsifier, Stabilizer, Acidity regulatory, Raising agent, Sequestrant, Moisture-retention agent	Emulsifier, Moisture-retaining agent, Sequestrant, Texturizer	No FCC monograph	
452(v)	Ammonium Polyphosphate	Emulsifier, Stabilizer, Acidity regulatory, Raising agent, Sequestrant, Moisture-retention agent	Sequestrant, Emulsifier	No FCC monograph	
452(vi)	Sodium Potassium Triphosphate	Emulsifier, Stabilizer, Acidity regulatory, Raising agent, Sequestrant, Moisture-retention agent	No JECFA monograph	Texturizer, sequestrant	Emulsifier, Sequestrant, Texturizer, Moisture-retention agent
541	Sodium Aluminum Phosphate	Acidity regulator, Emulsifier			<i>General Categories should not have technological purposes listed; they are dependent on the specific phosphate within the category</i>
541(i)	Sodium Aluminum Phosphate - Acidic	Acidity regulator, Emulsifier	Raising agent	Leavening agent	Raising agent
541(ii)	Sodium Aluminum Phosphate - Basic	Acidity regulator, Emulsifier	Emulsifier	Emulsifier	Emulsifier