



CODEX

Regulation for Food Additives and Contaminants & Residues

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농림축산식품부



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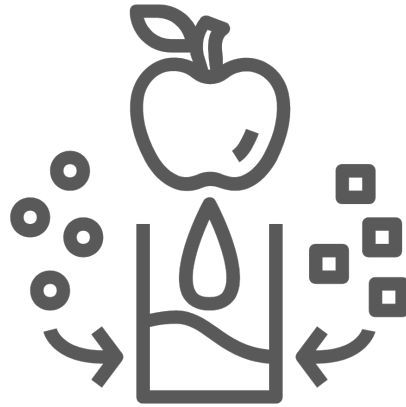
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Food Additives

PREAMBLE

1. SCOPE

1.1 Food Additives Included in this Standard

Only the food additives listed herein are recognized as suitable for use in foods in conformance with the provisions of this Standard.¹ Only food additives that have been assigned an Acceptable Daily Intake (ADI) or determined, on the basis of other criteria, to be safe² by the Joint FAO/WHO Expert Committee on Food Additives (JECFA)³ and an International Numbering System (INS) designation by Codex will be considered for inclusion in this Standard. The use of additives in conformance with this Standard is considered to be technologically justified.

1.2 Foods in Which Additives May Be Used

This Standard sets forth the conditions under which food additives may be used in all foods, whether or not they have previously been standardized by Codex. The use of additives in foods standardized by Codex is subject to the conditions of use established by the Codex commodity standards and this Standard. The *General Standard for Food Additives* (GSFA) should be the single authoritative reference point for food additives. Codex commodity committees have the responsibility and expertise to appraise and justify the technological need for the use of additives in foods subject to a commodity standard. The information given by the commodity committees may also be taken into account by the Codex Committee on Food Additives (CCFA) when considering food additive provisions in similar non-standardized foods. When a food is not covered by a commodity committee, CCFA will appraise the technological need.

1.3 Foods in Which Additives May Not Be Used

Food categories or individual food items in which the use of food additives is not acceptable, or where use should be restricted, are defined by this Standard.

1.4 Maximum Use Levels for Food Additives

The primary objective of establishing maximum use levels for food additives in various food groups is to ensure that the intake of an additive from all its uses does not exceed its ADI.

The food additives covered by this Standard and their maximum use levels are based in part on the food additive provisions of previously established Codex commodity standards, or upon the request of governments after subjecting the requested maximum use levels to an appropriate method for verifying the compatibility of a proposed maximum level with the ADI.

Annex A of this Standard may be used as a first step in this regard. The evaluation of actual food consumption data is also encouraged.

2. DEFINITIONS

- a) **Food additive** means any substance not normally consumed as a food by itself and not normally used as a typical ingredient of the food, whether or not it has nutritive value, the intentional addition of which to food for a technological (including organoleptic) purpose in the manufacture, processing, preparation, treatment, packing, packaging, transport or holding of such food results, or may be reasonably expected to result (directly or indirectly), in it or its by-products becoming a component of or otherwise affecting the characteristics of such foods. The term does not include contaminants or substances added to food for maintaining or improving nutritional qualities.⁴

¹ Notwithstanding the provisions of this Section of the General Standard, the lack of reference to a particular additive or to a particular use of an additive in a food in the General Standard as currently drafted, does not imply that the additive is unsafe or unsuitable for use in food. The Commission shall review the necessity for maintaining this footnote on a regular basis, with a view to its deletion once the General Standard is substantially complete.

² For the purpose of this standard "determined, on the basis of other criteria, to be safe" means that the use of a food additive does not pose a safety concern under conditions of use described by JECFA as being of no toxicological concern (e.g. use levels defined circumstances).

³ A data base of food additive specifications with their current ADI status, the year of their most recent JECFA evaluation, their assigned INS numbers, etc. are available in English at the JECFA website at FAO <http://www.fao.org/food/food-safety-quality/scientific-advice/jecfa/jecfa-additives/en/>. The database has a query page and background information in English, French, Spanish, Arabic and Chinese. The reports of JECFA are available at the JECFA website at WHO <http://apps.who.int/food-additives-contaminants-jecfa-database/search.aspx>

⁴ Codex Alimentarius Procedural Manual.

- b) **Acceptable Daily Intake (ADI)** is an estimate by JECFA of the amount of a food additive, expressed on a body weight basis that can be ingested daily over a lifetime without appreciable health risk.⁵
- c) **Acceptable Daily Intake "Not Specified" (NS)**⁶ is a term applicable to a food substance of very low toxicity for 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 levels in food, does not, in the opinion of JECFA, represent a hazard to health.

For the above reason, and for reasons stated in individual JECFA evaluations, establishment of an acceptable daily intake expressed in numerical form is not deemed necessary by JECFA. An additive meeting the above criterion must be used within the bounds of good manufacturing practice as defined in section 3.3 below.

- d) **Maximum Use Level** of an additive is the highest concentration of the additive determined to be functionally effective in a food or food category and agreed to be safe by the Codex Alimentarius Commission. It is generally expressed as mg additive/kg of food.

The maximum use level will not usually correspond to the optimum, recommended, or typical level of use. Under GMP, the optimum, recommended, or typical use level will differ for each application of an additive and is dependent on the intended technical effect and the specific food in which the additive would be used, taking into account the type of raw material, food processing and post-manufacture storage, transport and handling by distributors, retailers, and consumers.

3. GENERAL PRINCIPLES FOR THE USE OF FOOD ADDITIVES

The use of food additives in conformance with this Standard requires adherence to all the principles set forth in Sections 3.1 – 3.4.

3.1 Food Additive Safety

- a) Only those food additives shall be endorsed and included in this Standard that, so far as can be judged on the evidence presently available from JECFA, present no appreciable health risk to consumers at the use levels proposed.
- b) The inclusion of a food additive in this Standard shall have taken into account any ADI, or equivalent safety assessment established for the additive by JECFA and its probable daily intake⁷ from all food sources. Where the food additive is to be used in foods eaten by special groups of consumers (e.g. diabetics, those on special medical diets, sick individuals on formulated liquid diets), account shall be taken of the probable daily intake of the food additive by those consumers.
- c) The quantity of an additive added to food is at or below the maximum use level and is the lowest level necessary to achieve the intended technical effect. The maximum use level may be based on the application of the procedures of Annex A, the intake assessment of Codex members or upon a request by the CCFA to JECFA for an independent evaluation of national intake assessments.

3.2 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:

⁵ Principles for the Safety Assessment of Food Additives and Contaminants in Food, World Health Organization, (WHO Environmental Health Criteria, No. 70), p. 111 (1987). For the purposes of this Standard, the phrase "without appreciable health risk" means that there is a reasonable certainty of no harm to consumers if an additive is used at levels that do not exceed those in this Standard. The provisions of this Standard do not sanction the use of an additive in a manner that would adversely affect consumer health.

⁶ For purposes of this Standard, the phrase acceptable daily intake (ADI) "not limited" (NL) has the same meaning as ADI "not specified". The phrase "acceptable ADI" refers to an evaluation by JECFA, which established safety on the basis of an acceptable level of treatment of food, limited numerically or by GMP, rather than on a toxicologically established ADI.

⁷ Codex members may provide the CCFA with intake information that may be used by the Committee in establishing maximum use levels. Additionally, the JECFA, at the request of the CCFA, will evaluate intakes of additives based on intake assessments submitted by Codex members responding to a call for data. The CCFA will consider the JECFA evaluations when establishing the maximum use levels for additives.

- 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 (b) 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.

3.3 Good Manufacturing Practice (GMP)⁸

All food additives subject to the provisions of this Standard shall be used under conditions of good manufacturing practice, which include the following:

- 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.

3.4 Specifications for the Identity and Purity of Food Additives

Food additives used in accordance with this Standard should be of appropriate food grade quality and should at all times conform with the applicable Specifications of Identity and Purity recommended by the Codex Alimentarius Commission⁹ or, in the absence of such specifications, with appropriate specifications developed by responsible national or international bodies. In terms of safety, food grade quality is achieved by conformance of additives to their specifications as a whole (not merely with individual criteria) and through their production, storage, transport, and handling in accordance with GMP.

4. CARRY-OVER OF FOOD ADDITIVES INTO FOODS

4.1 Conditions Applying to Carry-Over of Food Additives from ingredients and raw materials into foods

Other than by direct addition, an additive may be present in a food as a result of carry-over from a raw material or ingredient used to produce the food, provided that:

- a) The additive is acceptable for use in the raw materials or other ingredients (including food additives) according to this Standard;
- b) The amount of the additive in the raw materials or other ingredients (including food additives) does not exceed the maximum use level specified in this Standard;
- c) The food into which the additive is carried over does not contain the additive in greater quantity than would be introduced by the use of raw materials, or ingredients under proper technological conditions or manufacturing practice, consistent with the provisions of this standard.

⁸ For additional information, see the Codex Alimentarius Commission Procedural Manual. Relations Between Commodity Committees and General Committees - Food Additives and Contaminants.

⁹ An index (CAC/MISC 6) of all specifications adopted by the Codex Alimentarius Commission, as well as the year of adoption, is available at the Codex website (<http://www.codexalimentarius.org/standards/en/>). These specifications, prepared by the JECFA, are also being published in 2006 in the "Combined Compendium of Food Additive Specifications," FAO JECFA Monographs No. 1, which consists of four volumes and in subsequent JECFA Monographs. The specifications are also available at the JECFA website (<http://www.fao.org/food/food-safety-quality/scientific-advice/jecfa/jecfa-additives/en/>). Although specifications for flavourings are not included in the printed compendium, with the exception of those few which have an additional non-flavour technological function, they are included in an online searchable database at the JECFA website at FAO. <http://www.fao.org/food/food-safety-quality/scientific-advice/jecfa/jecfa-flav/en/>

4.2 Special conditions applying to the use of food additives not directly authorised in food ingredients and raw materials

An additive may be used in or added to a raw material or other ingredient if the raw material or ingredient is used exclusively in the preparation of a food that is in conformity with the provisions of this standard, including that any maximum level applying to the food is not exceeded.

4.3 Foods for Which the Carry-over of Food Additives is Unacceptable

Carry-over of a food additive from a raw material or ingredient is unacceptable for foods belonging to the following food categories, unless a food additive provision in the specified category is listed in Tables 1 and 2 of this standard.

- a) 13.1 - Infant formulae, follow-up formulae, and formulae for special medical purposes for infants.
- b) 13.2 - Complementary foods for infants and young children.

5. FOOD CATEGORY SYSTEM¹⁰

The food category system is a tool for assigning food additive uses in this Standard. The food category system applies to all foodstuffs.

The food category descriptors are not to be legal product designations nor are they intended for labelling purposes.

The food category system is based on the following principles:

- a) The food category system is hierarchical, meaning that when an additive is recognized for use in a general category, it is recognized for use in all its sub-categories, unless otherwise stated. Similarly, when an additive is recognized for use in a sub-category, its use is recognized in any further sub-categories or individual foodstuffs mentioned in a sub-category.
- b) The food category system is based on product descriptors of foodstuffs as marketed, unless otherwise stated.
- c) The food category system takes into consideration the carry-over principle. By doing so, the food category system does not need to specifically mention compound foodstuffs (e.g. prepared meals, such as pizza, because they may contain, pro rata, all the additives endorsed for use in their components), unless the compound foodstuff needs an additive that is not endorsed for use in any of its components.
- d) The food category system is used to simplify the reporting of food additive uses for assembling and constructing this Standard.

6. DESCRIPTION OF THE STANDARD

This Standard consists of three main components:

- a) Preamble
- b) Annexes
 - i. Annex A is a guideline for considering maximum use levels for additives with numerical JECFA ADIs.
 - ii. Annex B is a listing of the food category system used to develop and organize Tables 1, 2, and 3 of the standard. Descriptors for each food category and sub-category are also provided.
 - iii. Annex C is a cross-reference of the food category system and Codex commodity standards.
- c) Food Additive Provisions
 - i. Table 1 specifies, for each food additive or food additive group (in alphabetical order) with a numerical JECFA ADI, the food categories (or foods) in which the additive is recognized for use, the maximum use levels for each food or food category, and its technological function. Table 1 also includes the uses of those additives with non-numerical ADIs for which a maximum use level is specified.
 - ii. Table 2 contains the same information as Table 1, but the information is arranged by food category number.

¹⁰ Annex B to this Standard.

- iii. Table 3 lists additives with Not Specified or Not Limited JECFA ADIs that are acceptable for use in foods in general when used at *quantum satis* levels and in accordance with the principles of good manufacturing practice described in Section 3.3 of this Preamble.

The Annex to Table 3 lists food categories and individual food items excluded from the general conditions of Table 3. The provisions in Tables 1 and 2 govern the use of additives in the food categories listed in the Annex to Table 3.

Unless otherwise specified, maximum use levels for additives in Tables 1 and 2 are set on the final product as consumed.

Tables 1, 2, and 3 do not include references to the use of substances as processing aids.¹¹

¹¹ Processing Aid means any substance or material, not including apparatus or utensils, and not consumed as a food ingredient by itself, intentionally used in the processing of raw materials, foods or its ingredients to fulfill a certain technological purpose during treatment or processing and which may result in the non-intentional but unavoidable presence of residues or derivatives in the final product: Codex Alimentarius Commission Procedural Manual.

ANNEX A

GUIDELINES FOR THE DEVELOPMENT OF MAXIMUM LEVELS FOR THE USE OF FOOD ADDITIVES WITH NUMERICAL ACCEPTABLE DAILY INTAKES

This annex is intended as a guidance to screen proposals for use of additives based on consideration of their maximum use level and the physiological upper limit to the amount of food and drink that can be consumed each day. The Annex is not intended for allocating provisions for the use of an additive and cannot be used for calculating accurate additive intakes.

I. FOOD ADDITIVES - BASIC PRINCIPLES FOR CALCULATION OF USE LEVELS**Guideline 1**

The levels and quantities of food additives used in the Budget Method calculations should be expressed on the same basis as the substances on which the ADI was allocated (e.g. an acid or its salts). For foods sold as concentrates or powders intended for reconstitution before consumption, the Budget calculation on the food additive use levels should be performed on the ready-to-eat product.

II. ESTIMATION OF THE SAFETY ASPECTS OF USE LEVELS - FOOD ADDITIVES WITH NO NUMERICAL ADI**Guideline 2*****Food Additives with an ADI of "Not Specified"***

When an additive has been allocated an ADI "not specified"¹² it could in principle, be allowed for use in foods in general with no limitation other than in accordance with Good Manufacturing Practices (GMP). It should, however, be born in mind that ADI not specified does not mean that unlimited intake is acceptable. The term is used by JECFA in case where "on the basis of the available data (chemical, biochemical, toxicological, and other) the total daily 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 the Committee, represent a hazard to health"¹

If, therefore, a substance is used in larger amounts and/or in a wider range of foods than originally envisaged by JECFA it may be necessary to consult JECFA to ensure that the new uses fall within the evaluation. For example a substance may have been evaluated as a humectant without including a later use as a bulk sweetener, which could give considerable higher intake.

Guideline 3***Food Additives Evaluated as "Acceptable" for Certain Purposes***

In some cases, JECFA has been unable to allocate an ADI but nevertheless found a specific use of a substance acceptable. In such cases, the additive in question should only be authorized in accordance with the conditions specified. In case of any other reported uses CCFA should request JECFA to re-evaluate the additive in question in light of the new information on uses.

III. ESTIMATION OF THE SAFETY ASPECTS OF USE LEVELS - FOOD ADDITIVES WITH NUMERICAL ADI**Guideline 4*****Fractions of the ADI to be used for Solid Food and Beverages, Respectively***

If an additive is proposed for use in both solid food and in beverages the full ADI cannot be used for both for uses in solid food and uses in beverages. It is therefore necessary to allocate a fraction of the ADI to each of the applications. As a first approach, it may be appropriate to assume that one-half of the ADI is allocated to each solid and liquid foods. However, in special cases other fractions may be more appropriate as long as the sum of the fractions does not exceed the figure for the ADI (e.g. FS=1/4 and FB=3/4 ; FS=1/6 and FB=5/6), where **FS** is the fraction for use in solid food and **FB** is the fraction for use in beverages). If the additive is used only in solid food, then FS =1 and FB=0 and if the additive is used only in beverages, then FS=0 and FB=1.

¹² *Principles for the Safety Assessment of Food Additives and Contaminants in Food*. Geneva, World Health Organization, 1987 (Environmental Health Criteria, No. 70), p.83.

III(a) FOOD ADDITIVE USES IN SOLID FOOD (FS)**Guideline 5*****Use Levels Below FS x ADI x 40***

If the proposed use levels are below FS x ADI x 40, these food additive provisions could be suitable in food in general.

Guideline 6***Use Levels Below FS x ADI x 80***

If the proposed use levels are below FS x ADI x 80 they are acceptable provided the daily consumption of the foods containing the additive will usually not exceed half of the assumed maximum total solid food intake (i.e. 12.5 g/kg bw/day).

Guideline 7***Use Levels Below FS x ADI x 160***

If the proposed use levels are below FS x ADI x 160 they are acceptable provided the daily consumption of the foods containing the additive will usually not exceed one fourth of the assumed maximum total solid food intake (i.e. 6.25 g/kg bw/day).

Guideline 8***Use Levels Below FS x ADI x 320***

If the proposed use levels are below FS x ADI x 320 they could be accepted provided the daily consumption of the foods containing the additive will usually not exceed one eighth of the assumed maximum total food intake (i.e. 3.13 g/kg bw/day).

Guideline 9***Use Levels Above FS x ADI x 320***

If the proposed levels are higher than FS x ADI x 320 they should only be accepted for products where calculation of potential intake from all proposed uses will show that exceeding the ADI is unlikely, or if estimation of the intake of the additive based on more exact intake estimates methods show that the use levels are acceptable (e.g. food consumption surveys).

III(b) FOOD ADDITIVE USES IN BEVERAGES (FL)**Guideline 10*****Use Levels Below FL x ADI x 10***

If the proposed levels are below FL x ADI x 10, the additive could be accepted for use in all beverages in general.

Guideline 11***Use Levels Below FL x ADI x 20***

If the proposed use levels are below FL x ADI x 20 they could be accepted provided the daily consumption of beverages containing the additive will usually not exceed half of the assumed maximum total intake of beverage (i.e. 50 ml/kg bw/day).

Guideline 12***Use Levels Below FS x ADI x 40***

If the proposed use levels are below FL x ADI x 40 they could be accepted provided the daily consumption of beverages containing the additive will usually not exceed a fourth of the assumed maximum total intake of beverage (i.e. 25 ml/kg bw/day).

Guideline 13***Use Levels Below FL x ADI x 80***

If the proposed use levels are below FL x ADI x 80 they could be accepted provided the daily consumption of beverages containing the additive will usually not exceed an eighth of the assumed maximum total intake of beverage (i.e. 12.5 ml/kg bw/day).

Guideline 14***Use Levels Above FL x ADI x 80***

Levels above FL x ADI x 80 should only be accepted for products where calculation of potential intake will show that exceeding the ADI is unlikely (e.g. strong alcoholic beverages).

FOOD CATEGORY SYSTEM**PART I: Food Category System**

- 01.0 Dairy products and analogues, excluding products of food category 02.0
 - 01.1 Fluid Milk and Milk Products
 - 01.1.1 Fluid Milk (plain)
 - 01.1.2 Other Fluid Milk (plain)
 - 01.1.3 Fluid Buttermilk (plain)
 - 01.1.4 Flavoured Fluid Milk Drinks
 - 01.2 Fermented and renneted milk products (plain),
 - 01.2.1 Fermented milks (plain)
 - 01.2.1.1 Fermented milks (plain), not heat-treated after fermentation
 - 01.2.1.2 Fermented milks (plain), heat-treated after fermentation
 - 01.2.2 Renneted milk (plain)
 - 01.3 Condensed milk and analogues (plain)
 - 01.3.1 Condensed milk (plain)
 - 01.3.2 Beverage whiteners
 - 01.4 Cream (plain) and the like
 - 01.4.1 Pasteurized cream (plain)
 - 01.4.2 Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)
 - 01.4.3 Clotted cream (plain)
 - 01.4.4 Cream analogues
 - 01.5 Milk powder and cream powder and powder analogues (plain)
 - 01.5.1 Milk powder and cream powder (plain)
 - 01.5.2 Milk and cream powder analogues
 - 01.6 Cheese and analogues
 - 01.6.1 Unripened cheese
 - 01.6.2 Ripened cheese
 - 01.6.2.1 Ripened cheese, includes rind
 - 01.6.2.2 Rind of ripened cheese
 - 01.6.2.3 Cheese powder (for reconstitution; e.g. for cheese sauces)
 - 01.6.3 Whey cheese
 - 01.6.4 Processed cheese
 - 01.6.4.1 Plain processed cheese
 - 01.6.4.2 Flavoured processed cheese, including containing fruit, vegetables, meat, etc.
 - 01.6.5 Cheese analogues
 - 01.6.6 Whey protein cheese
 - 01.7 Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)
 - 01.8 Whey and whey products, excluding whey cheeses
 - 01.8.1 Liquid whey and whey products, excluding whey cheeses

- 01.8.2 Dried whey and whey products, excluding whey cheeses
- 02.0 Fats and oils, and fat emulsions
 - 02.1 Fats and oils essentially free from water
 - 02.1.1 Butter oil, anhydrous milkfat, ghee
 - 02.1.2 Vegetable oils and fats
 - 02.1.3 Lard, tallow, fish oil, and other animal fats
 - 02.2 Fat emulsions mainly of type water-in-oil
 - 02.2.1 Butter
 - 02.2.2 Fat spreads, dairy fat spreads and blended spreads
 - 02.3 Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions
 - 02.4 Fat-based desserts excluding dairy-based dessert products of food category 01.7
- 03.0 Edible ices, including sherbet and sorbet
- 04.0 Fruits and vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds
 - 04.1 Fruit
 - 04.1.1 Fresh fruit
 - 04.1.1.1 Untreated fresh fruit
 - 04.1.1.2 Surface-treated fresh fruit
 - 04.1.1.3 Peeled or cut fresh fruit
 - 04.1.2 Processed fruit
 - 04.1.2.1 Frozen fruit
 - 04.1.2.2 Dried fruit
 - 04.1.2.3 Fruit in vinegar, oil, or brine
 - 04.1.2.4 Canned or bottled (pasteurized) fruit
 - 04.1.2.5 Jams, jellies, marmalades
 - 04.1.2.6 Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5
 - 04.1.2.7 Candied fruit
 - 04.1.2.8 Fruit preparations, including pulp, purees, fruit toppings and coconut milk
 - 04.1.2.9 Fruit-based desserts, incl. fruit-flavoured water-based desserts
 - 04.1.2.10 Fermented fruit products
 - 04.1.2.11 Fruit fillings for pastries
 - 04.1.2.12 Cooked fruit
 - 04.2 Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds
 - 04.2.1 Fresh vegetables, (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds and nuts and seeds
 - 04.2.1.1 Untreated fresh vegetables, (including mushrooms and fungi, roots and tubers, pulses and legumes (including soybeans), and aloe vera), seaweeds and nuts and seeds
 - 04.2.1.2 Surface-treated fresh vegetables, (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds and nuts and seeds

- 04.2.1.3 Peeled, cut or shredded fresh vegetables, (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds and nuts and seeds
- 04.2.2 Processed vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds
 - 04.2.2.1 Frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds and nuts and seeds
 - 04.2.2.2 Dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds
 - 04.2.2.3 Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce
 - 04.2.2.4 Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds
 - 04.2.2.5 Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g. peanut butter)
 - 04.2.2.6 Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5
 - 04.2.2.7 Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3
 - 04.2.2.8 Cooked or fried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds
- 05.0 Confectionery
 - 05.1 Cocoa products and chocolate products including imitations and chocolate substitutes
 - 05.1.1 Cocoa mixes (powders) and cocoa mass/cake
 - 05.1.2 Cocoa mixes (syrops)
 - 05.1.3 Cocoa-based spreads, incl. fillings
 - 05.1.4 Cocoa and chocolate products
 - 05.1.5 Imitation chocolate, chocolate substitute products
 - 05.2 Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3, and 05.4
 - 05.2.1 Hard candy
 - 05.2.2 Soft candy
 - 05.2.3 Nougats and marzipans
 - 05.3 Chewing gum
 - 05.4 Decorations (e.g. for fine bakery wares), toppings (non-fruit), and sweet sauces
- 06.0 Cereals and cereal products, derived from cereal grains, from roots and tubers, pulses, legumes and pith or soft core of palm tree, excluding bakery wares of food category 07.0
 - 06.1 Whole, broken, or flaked grain, including rice
 - 06.2 Flours and starches (including soybean powder)
 - 06.2.1 Flours
 - 06.2.2 Starches

- 06.3 Breakfast cereals, including rolled oats
- 06.4 Pastas and noodles and like products (e.g. rice paper, rice vermicelli, soybean pastas and noodles)
 - 06.4.1 Fresh pastas and noodles and like products
 - 06.4.2 Dried pastas and noodles and like products
 - 06.4.3 Pre-cooked pastas and noodles and like products
- 06.5 Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)
- 06.6 Batters (e.g. for breading or batters for fish or poultry)
- 06.7 Pre-cooked or processed rice products, including rice cakes (Oriental type only)
- 06.8 Soybean products (excluding soybean-based seasonings and condiments of food category 12.9)
 - 06.8.1 Soybean-based beverages
 - 06.8.2 Soybean-based beverage film
 - 06.8.3 Soybean curd (tofu)
 - 06.8.4 Semi-dehydrated soybean curd
 - 06.8.4.1 Thick gravy-stewed semi-dehydrated soybean curd
 - 06.8.4.2 Deep fried semi-dehydrated soybean curd
 - 06.8.4.3 Semi-dehydrated soybean curd, other than food categories 06.8.4.1 and 06.8.4.2
 - 06.8.5 Dehydrated soybean curd (kori tofu)
 - 06.8.6 Fermented soybeans (e.g. natto, tempe)
 - 06.8.7 Fermented soybean curd
 - 06.8.8 Other soybean protein products
- 07.0 Bakery wares
 - 07.1 Bread and ordinary bakery wares and mixes
 - 07.1.1 Breads and rolls
 - 07.1.1.1 Yeast-leavened breads and specialty breads
 - 07.1.1.2 Soda breads
 - 07.1.2 Crackers, excluding sweet crackers
 - 07.1.3 Other ordinary bakery products (e.g. bagels, pita, English muffins)
 - 07.1.4 Bread-type products, including bread stuffing and bread crumbs
 - 07.1.5 Steamed breads and buns
 - 07.1.6 Mixes for bread and ordinary bakery wares
 - 07.2 Fine bakery wares (sweet, salty, savoury) and mixes
 - 07.2.1 Cakes, cookies and pies (e.g. fruit-filled or custard types)
 - 07.2.2 Other fine bakery products (e.g. doughnuts, sweet rolls, scones, and muffins)
 - 07.2.3 Mixes for fine bakery wares (e.g. cakes, pancakes)
- 08.0 Meat and meat products, including poultry and game
 - 08.1 Fresh meat, poultry, and game
 - 08.1.1 Fresh meat, poultry and game, whole pieces or cuts
 - 08.1.2 Fresh meat, poultry and game, comminuted
 - 08.2 Processed meat, poultry, and game products in whole pieces or cuts
 - 08.2.1 Non-heat treated processed meat, poultry, and game products in whole pieces or cuts

- 08.2.1.1 Cured (including salted) non-heat treated processed meat, poultry, and game products in whole pieces or cuts
- 08.2.1.2 Cured (including salted) and dried non-heat treated processed meat, poultry, and game products in whole pieces or cuts
- 08.2.1.3 Fermented non-heat treated processed meat, poultry, and game products in whole pieces or cuts
- 08.2.2 Heat-treated processed meat, poultry, and game products in whole pieces or cuts
- 08.2.3 Frozen processed meat, poultry and game products in whole pieces or cuts
- 08.3 Processed comminuted meat, poultry, and game products
 - 08.3.1 Non-heat treated processed comminuted meat, poultry, and game products
 - 08.3.1.1 Cured (including salted) non-heat treated processed comminuted meat, poultry, and game products
 - 08.3.1.2 Cured (including salted) and dried non-heat treated processed comminuted meat, poultry, and game products
 - 08.3.1.3 Fermented non-heat treated processed comminuted meat, poultry, and game products
 - 08.3.2 Heat-treated processed comminuted meat, poultry, and game products
 - 08.3.3 Frozen processed comminuted meat, poultry, and game products
- 08.4 Edible casings (e.g. sausage casings)
- 09.0 Fish and fish products, including molluscs, crustaceans, and echinoderms
 - 09.1 Fresh fish and fish products, including molluscs, crustaceans, and echinoderms
 - 09.1.1 Fresh fish
 - 09.1.2 Fresh molluscs, crustaceans, and echinoderms
 - 09.2 Processed fish and fish products, including molluscs, crustaceans, and echinoderms
 - 09.2.1 Frozen fish, fish fillets, and fish products, including molluscs, crustaceans, and echinoderms
 - 09.2.2 Frozen battered fish, fish fillets and fish products, including molluscs, crustaceans, and echinoderms
 - 09.2.3 Frozen minced and creamed fish products, including molluscs, crustaceans, and echinoderms
 - 09.2.4 Cooked and/or fried fish and fish products, including molluscs, crustaceans, and echinoderms
 - 09.2.4.1 Cooked fish and fish products
 - 09.2.4.2 Cooked molluscs, crustaceans, and echinoderms
 - 09.2.4.3 Fried fish and fish products, including molluscs, crustaceans, and echinoderms
 - 09.2.5 Smoked, dried, fermented, and/or salted fish and fish products, including molluscs, crustaceans, and echinoderms
 - 09.3 Semi-preserved fish and fish products, including molluscs, crustaceans, and echinoderms
 - 09.3.1 Fish and fish products, including molluscs, crustaceans, and echinoderms, marinated and/or in jelly
 - 09.3.2 Fish and fish products, including molluscs, crustaceans and echinoderms, pickled and/or in brine
 - 09.3.3 Salmon substitutes, caviar and other fish roe products
 - 09.3.4 Semi-preserved fish and fish products, including molluscs, crustaceans and echinoderms (e.g. fish paste), excluding products of food categories 09.3.1 - 09.3.3

- 09.4 Fully preserved, including canned or fermented fish and fish products, including molluscs, crustaceans, and echinoderms
- 10.0 Eggs and egg products
 - 10.1 Fresh eggs
 - 10.2 Egg products
 - 10.2.1 Liquid egg products
 - 10.2.2 Frozen egg products
 - 10.2.3 Dried and/or heat coagulated egg products
 - 10.3 Preserved eggs, including alkaline, salted, and canned eggs
 - 10.4 Egg-based desserts (e.g. custard)
- 11.0 Sweeteners, including honey
 - 11.1 Refined and raw sugars
 - 11.1.1 White sugar, dextrose anhydrous, dextrose monohydrate, fructose
 - 11.1.2 Powdered sugar, powdered dextrose
 - 11.1.3 Soft white sugar, soft brown sugar, glucose syrup, dried glucose syrup, raw cane sugar
 - 11.1.3.1 Dried glucose syrup used to manufacture sugar confectionery
 - 11.1.3.2 Glucose syrup used to manufacture sugar confectionery
 - 11.1.4 Lactose
 - 11.1.5 Plantation or mill white sugar
 - 11.2 Brown sugar excluding products of food category 11.1.3
 - 11.3 Sugar solutions and syrups, also (partially) inverted, including treacle and molasses, excluding products of food category 1.1.1.3
 - 11.4 Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)
 - 11.5 Honey
 - 11.6 Table-top sweeteners, including those containing high-intensity sweeteners
- 12.0 Salts, spices, soups, sauces, salads and protein products
 - 12.1 Salt and salt substitutes
 - 12.1.1 Salt
 - 12.1.2 Salt substitutes
 - 12.2 Herbs, spices, seasonings, and condiments (e.g. seasoning for instant noodles)
 - 12.2.1 Herbs and spices
 - 12.2.2 Seasonings and condiments
 - 12.3 Vinegars
 - 12.4 Mustards
 - 12.5 Soups and broths
 - 12.5.1 Ready-to-eat soups and broths, including canned, bottled, and frozen
 - 12.5.2 Mixes for soups and broths
 - 12.6 Sauces and like products
 - 12.6.1 Emulsified sauces and dips (e.g. mayonnaise, salad dressing, onion dips)
 - 12.6.2 Non-emulsified sauces (e.g. ketchup, cheese sauce, cream sauce, brown gravy)
 - 12.6.3 Mixes for sauces and gravies
 - 12.6.4 Clear sauces (e.g. fish sauce)

- 12.7 Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa-and nut-based spreads of food categories 04.2.2.5 and 05.1.3
- 12.8 Yeast and like products
- 12.9 Soybean-based seasonings and condiments
 - 12.9.1 Fermented soybean paste (e.g. miso)
 - 12.9.2 Soybean sauce
 - 12.9.2.1 Fermented soybean sauce
 - 12.9.2.2 Non-fermented soybean sauce
 - 12.9.2.3 Other soybean sauces
- 12.10 Protein products other than from soybeans
- 13.0 Foodstuffs intended for particular nutritional uses
 - 13.1 Infant formulae, follow-on formulae, and formulae for special medical purposes for infants
 - 13.1.1 Infant formulae
 - 13.1.2 Follow-up formulae
 - 13.1.3 Formulae for special medical purposes for infants
 - 13.2 Complementary foods for infants and young children
 - 13.3 Dietetic foods intended for special medical purposes (excluding products of food category 13.1)
 - 13.4 Dietetic formulae for slimming purposes and weight reduction
 - 13.5 Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1- 13.4 and 13.6
 - 13.6 Food supplements
- 14.0 Beverages, excluding dairy products
 - 14.1 Non-alcoholic ("soft") beverages
 - 14.1.1 Waters
 - 14.1.1.1 Natural mineral waters and source waters
 - 14.1.1.2 Table waters and soda waters
 - 14.1.2 Fruit and vegetable juices
 - 14.1.2.1 Fruit juice
 - 14.1.2.2 Vegetable juice
 - 14.1.2.3 Concentrates for fruit juice
 - 14.1.2.4 Concentrates for vegetable juice
 - 14.1.3 Fruit and vegetable nectars
 - 14.1.3.1 Fruit nectar
 - 14.1.3.2 Vegetable nectar
 - 14.1.3.3 Concentrates for fruit nectar
 - 14.1.3.4 Concentrates for vegetable nectar
 - 14.1.4 Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks
 - 14.1.4.1 Carbonated water-based flavoured drinks
 - 14.1.4.2 Non-carbonated water-based flavoured drinks, including punches and ades
 - 14.1.4.3 Concentrates (liquid or solid) for water-based flavoured drinks
 - 14.1.5 Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa

- 14.2 Alcoholic beverages, including alcohol-free and low-alcoholic counterparts
 - 14.2.1 Beer and malt beverages
 - 14.2.2 Cider and perry
 - 14.2.3 Grape wines
 - 14.2.3.1 Still grape wine
 - 14.2.3.2 Sparkling and semi-sparkling grape wines
 - 14.2.3.3 Fortified grape wine, grape liquor wine, and sweet grape wine
 - 14.2.4 Wines (other than grape)
 - 14.2.5 Mead
 - 14.2.6 Distilled spirituous beverages containing more than 15% alcohol
 - 14.2.7 Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low-alcoholic refreshers)
- 15.0 Ready-to-eat savouries
 - 15.1 Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)
 - 15.2 Processed nuts, including coated nuts and nut mixtures (with e.g. dried fruit)
 - 15.3 Snacks - fish based
- 16. Prepared foods

PART II: Food Category Descriptors

01.0 Dairy products and analogues, excluding products of food category 02.0:

Includes all types of dairy products that are derived from the milk of any milking animal (e.g. cow, sheep, goat, buffalo). In this category, with the exception of food category 1.1.4, a “plain” product is one that is not flavoured, nor contains fruit, vegetables or other non-dairy ingredients, nor is mixed with other non-dairy ingredients, unless permitted by relevant standards. Analogues are products in which milk fat has been partially or wholly replaced by vegetable fats or oils.

01.1 Fluid milk and milk products

Includes all plain and flavoured fluid milks based on skim, part-skim, low-fat and whole milk, excluding plain fermented products and plain renneted milk products of food category 1.2. Fluid milks are 'milk products' as defined in CODEX STAN 206-1999, that are obtained by the processing of milk, and may contain food additives and other ingredients functionally necessary for processing. Raw milk (“milk” as defined in CODEX STAN 206-1999) shall not contain any food additives.

01.1.1 Fluid milk (plain)

Plain fluid milk obtained from milking animals (e.g., cows, sheep, goats, buffalo) that has been processed. Includes pasteurized, ultra-high temperature (UHT) treated, sterilized¹³, homogenized, or fat adjusted milk. Includes, but is not limited to, skim, part-skim, low-fat and whole milk.

01.1.2 Other fluid milks (plain)

Includes all plain fluid milk, excluding products of food categories 01.1.1 Fluid milk (plain), 01.1.3 Fluid buttermilk (plain), and 01.2 Fermented and renneted milk products (plain). Includes, but is not limited to, plain recombined fluid milks, plain reconstituted fluid milks, plain composite milks, non-flavoured vitamin and mineral fortified fluid milks, protein adjusted milks, lactose reduced milk, and plain milk-based beverages. In this food category, plain products contain no added flavouring nor other ingredients that intentionally impart flavour, but may contain other non-dairy ingredients.

01.1.3 Fluid buttermilk (plain):

Fluid buttermilk is the nearly milkfat-free fluid remaining from the butter-making process (i.e. churning fermented or non-fermented milk and cream). Fluid buttermilk is also produced by fermentation of fluid skim milk, either by spontaneous souring by the action of lactic acid-forming or aroma-forming bacteria, or by inoculation of heated milk with pure bacterial cultures (cultured buttermilk).¹⁴ Fluid buttermilk may be pasteurized or sterilized.

01.1.4 Flavoured fluid milk drinks

Includes all mixes and ready-to-drink fermented or not fermented milk-based drinks with flavourings and/or food ingredients that intentionally impart flavour, excluding mixes for cocoa (cocoa-sugar mixtures, category 05.1.1). Examples, include but are not limited to, chocolate milk, chocolate malt drinks, strawberry-flavoured yoghurt drink, lactic acid bacteria drinks, whey-based drinks, and lassi (liquid obtained by whipping curd from the lactic acid fermentation of milk, and mixing with sugar or intense sweetener).

01.2 Fermented and renneted milk products (plain):

Includes all plain fermented or renneted products based on skim, part-skim, low-fat and whole milk, excluding food category 01.1.4. Flavoured products are included in 01.1.4 (beverages) and 01.7 (desserts).

01.2.1 Fermented milks (plain)

Includes all plain products, including fluid fermented milk, acidified milk and cultured milk. Plain yoghurt and plain drinks based on fermented milk, which do not contain flavouring or colours, may be found in one of the sub-categories of 01.2.1 depending on whether it is heat-treated after fermentation or not.

01.2.1.1 Fermented milks (plain), not heat treated after fermentation

Includes fluid and non-fluid plain products, such as yoghurt and plain drinks based on fermented milk.

01.2.1.2 Fermented milks (plain), heat-treated after fermentation:

Products similar to that in 01.2.1.1, except that they have been heat-treated (e.g. sterilized or pasteurized) after fermentation.

¹³ *Food Chemistry*, H.-D. Belitz & W. Grosch, Springer-Verlag, Heidelberg, 1987, p. 389.

¹⁴ *Food Chemistry*, H.-D. Belitz & W. Grosch, Springer-Verlag, Heidelberg, 1987, p. 392.

01.2.2 Renneted milk (plain):

Plain, coagulated milk produced by the action of milk coagulating enzymes. Includes curdled milk. Flavoured renneted milk products are found in category 01.7.

01.3 Condensed milk and analogues (plain):

Includes plain and sweetened types of condensed milk, evaporated milk, and their analogues (including beverage whiteners). Includes products based on skim, part-skim, low-fat and whole milk, blends of evaporated skimmed milk and vegetable fat, and blends of sweetened condensed skimmed milk and vegetable fat.

01.3.1 Condensed milk (plain):

Condensed milk is obtained by partial removal of water from milk to which sugar may have been added. For evaporated milk, the water removal may be accomplished by heating.¹⁵ Includes partially dehydrated milk, evaporated milk, sweetened condensed milk, and *khoa* (cow or buffalo milk concentrated by boiling).

01.3.2 Beverage whiteners:

Milk or cream substitute consisting of a vegetable fat-water emulsion in water with milk protein and lactose or vegetable proteins for use in beverages such as coffee and tea. Also includes the same type of products in powdered form. Includes condensed milk analogues, blends of evaporated skimmed milk and vegetable fat and blends of sweetened condensed skimmed milk and vegetable fat.

01.4 Cream (plain) and the like:

Cream is a fluid dairy product, relatively high in fat content in comparison to milk. Includes all plain fluid, semi-fluid and semi-solid cream and cream analogue products. Flavoured cream products are found in 01.1.4 (beverages) and 01.7 (desserts).

01.4.1 Pasteurized cream (plain):

Cream subjected to pasteurization by appropriate heat treatment or made from pasteurized milk.¹⁶ Includes milk cream and "half-and-half."

01.4.2 Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain):

Includes every cream, regardless of fat content, which has undergone a higher heat-treatment than pasteurization. Also includes pasteurized creams with a reduced fat content, as well as every cream intended for whipping or being whipped. Sterilized cream is subjected to appropriate heat-treatment in the container in which it is presented to the consumer. Ultra-heat treated (UHT) or ultrapasteurized cream is subjected to the appropriate heat treatment (UHT or ultrapasteurization) in a continuous flow process and aseptically packaged. Cream may also be packaged under pressure (whipped cream).¹⁶ Includes whipping cream, heavy cream, whipped pasteurized cream, and whipped cream-type dairy toppings and fillings. Creams or toppings with partial or total replacement of milkfat by other fats are included in sub-category 01.4.4 (cream analogues).

01.4.3 Clotted cream (plain):

Thickened, viscous cream formed from the action of milk coagulating enzymes. Includes sour cream (cream subjected to lactic acid fermentation achieved as described for buttermilk (01.1.3)).¹⁷

01.4.4 Cream analogues:

Cream substitute consisting of a vegetable fat-water emulsion in liquid or powdered form for use other than as a beverage whitener (01.3.2). Includes instant whipped cream toppings and sour cream substitutes.

01.5 Milk powder and cream powder and powder analogues (plain):

Includes plain milk powders, cream powders, or combination of the two, and their analogues. Includes products based on skim, part-skim, low-fat and whole milk.

01.5.1 Milk powder and cream powder (plain):

Milk products obtained by partial removal of water from milk or cream and produced in a powdered form.¹⁸ Includes casein and caseinates.¹⁹

¹⁵ *Standard for Evaporated Milks* (CODEX STAN 281-1971).

¹⁶ *Standard for Cream and Prepared Creams* (CODEX STAN 288-1976).

¹⁷ *Food Chemistry*, H.-D. Belitz & W. Grosch, Springer-Verlag, Heidelberg, 1987, p. 393.

¹⁸ *Standard for Milk Powders and Cream Powder* (CODEX STAN 207-1999).

¹⁹ *Standard for Edible Casein Products* (CODEX STAN 290-1995).

01.5.2 Milk and cream powder analogues:

Products based on a fat-water emulsion and dried for use other than as a beverage whitener (01.3.2). Examples include imitation dry cream mix and blends of skimmed milk and vegetable fat in powdered form.

01.6 Cheese and analogues:

Cheese and cheese analogues are products that have water and fat included within a coagulated milk-protein structure. Products such as cheese sauce (12.6.2), cheese-flavoured snacks (15.1), and composite prepared foods containing cheese as an ingredient (e.g. macaroni and cheese; 16.0) are categorized elsewhere.

01.6.1 Unripened cheese:

Unripened cheese, including fresh cheese, is ready for consumption soon after manufacture.²⁰ Examples include cottage cheese (a soft, unripened, coagulated curd cheese), creamed cottage cheese (cottage cheese covered with a creaming mixture),²¹ cream cheese (rahmfrischkase, an uncured, soft spreadable cheese)²², mozzarella and scamorza cheeses and *paneer* (milk protein coagulated by the addition of citric acid from lemon or lime juice or of lactic acid from whey, that is strained into a solid mass, and is used in vegetarian versions of, e.g. hamburgers). Includes the whole unripened cheese and unripened cheese rind (for those unripened cheeses with a “skin” such as mozzarella). Most products are plain, however, some, such as cottage cheese and cream cheese, may be flavoured or contain ingredients such as fruit, vegetables or meat. Excludes ripened cream cheese, where cream is a qualifier for a high fat content.

01.6.2 Ripened cheese:

Ripened cheese is not ready for consumption soon after manufacture, but is held under such time and temperature conditions so as to allow the necessary biochemical and physical changes that characterize the specific cheese. For mould-ripened cheese, the ripening is accomplished primarily by the development of characteristic mould growth throughout the interior and/or on the surface of the cheese.²⁰ Ripened cheese may be soft (e.g. camembert), firm (e.g. edam, gouda), hard (e.g. cheddar), or extra-hard. Includes cheese in brine, which is a ripened semi-hard to soft cheese, white to yellowish in colour with a compact texture, and without actual rind that has been preserved in brine until presented to the consumer.²³

01.6.2.1 Ripened cheese, includes rind:

Refers to ripened (including mould-ripened) cheese, including rind, or any part thereof, such as cut, shredded, grated or sliced cheese. Examples of ripened cheese include: blue cheese, brie, gouda, havarti, hard grating cheese, and Swiss cheese.

01.6.2.2 Rind of ripened cheese:

Refers to the rind only of the cheese. The rind of the cheese is the exterior portion of the cheese mass that initially has the same composition as the interior portion of the cheese, but which may dry after brining and ripening.²⁴

01.6.2.3 Cheese powder (for reconstitution; e.g. for cheese sauces):

Dehydrated product prepared from a variety or processed cheese. Does not include grated or shredded cheese (01.6.2.1 for variety cheese; 01.6.4 for processed cheese). Product is intended either to be reconstituted with milk or water to prepare a sauce, or used as-is as an ingredient (e.g. with cooked macaroni, milk and butter to prepare a macaroni and cheese casserole). Includes spray-dried cheese.

01.6.3 Whey cheese:

A solid or semi-solid product obtained by concentration of whey with or without the addition of milk, cream or other materials of milk origin, and moulding of the concentrated product.²⁵ Includes the whole cheese and the rind of the cheese. Different from whey protein cheese (01.6.6).

²⁰ *Standard for Cheese* (CODEX STAN 283-1978).

²¹ *Standard for Cottage Cheese* (CODEX STAN 273-1968).

²² *Standard for Cream Cheese* (CODEX STAN 275-1973).

²³ *Group Standard for Cheeses in Brine* (CODEX STAN 208-1999).

²⁴ The rind is different from the coating of a cheese. The coating is either: (1) a film of synthetic or natural material, which helps to regulate the humidity during ripening and protects the cheese against microorganisms; or (2) a layer, primarily of wax, paraffin or plastic, which normally is impermeable to moisture, that protects the cheese after ripening against microorganisms and against physical damage during retail handling and that in some cases, contributes to the specific appearance of the cheese (e.g. coloured surface).

²⁵ *Standard for Whey Cheeses* (CODEX STAN 284-1971).

01.6.4 Processed cheese:

Product with a very long shelf life obtained by melting and emulsifying cheese. Includes products manufactured by heating and emulsifying mixtures of cheese, milkfat, milk protein, milk powder, and water in different amounts. Products may contain other added ingredients, such as aromas, seasonings and fruit, vegetables and/or meat. Product may be spreadable or cut into slices and pieces.²⁶ The term “processed” does not mean cutting, grating, shredding, etc. of cheese. Cheese treated by these mechanical processes are included under food category 01.6.2 (Ripened cheese).

01.6.4.1 Plain processed cheese:

Processed cheese product that does not contain added flavours, seasonings, fruit, vegetables and/or meat. Examples include: American cheese, requeson.

01.6.4.2 Flavoured processed cheese, including containing fruit, vegetables, meat, etc.:

Processed cheese product that contains added flavours, seasonings, fruit, vegetables and/or meat. Examples include: neufchatel cheese spread with vegetables, pepper jack cheese, cheddar cheese spread with wine, and cheese balls (formed processed cheese coated in nuts, herbs or spices).

01.6.5 Cheese analogues:

Products that look like cheese, but in which milkfat has been partly or completely replaced by other fats. Includes imitation cheese, imitation cheese mixes, and imitation cheese powders.

01.6.6 Whey protein cheese:

Product containing the protein extracted from the whey component of milk. These products are principally made by coagulation of whey proteins.²⁵ Example: ricotta cheese. Different from whey cheese (01.6.3).

01.7 Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt):

Includes ready-to-eat flavoured dairy dessert products and dessert mixes. Includes frozen dairy confections and novelties, and dairy-based fillings. Includes flavoured yoghurt (a milk product obtained by fermentation of milk and milk products to which flavours and ingredients (e.g. fruit, cocoa, coffee) have been added) that may or may not be heat-treated after fermentation.²⁷ Other examples include: ice cream (frozen dessert that may contain whole milk, skim milk products, cream or butter, sugar, vegetable oil, egg products, and fruit, cocoa, or coffee), ice milk (product similar to ice cream with reduced whole or skim milk content, or made with nonfat milk), jellied milk, frozen flavoured yoghurt, junket (sweet custard-like dessert made from flavoured milk set with rennet), dulce de leche (cooked milk with sugar and added ingredients such as coconut or chocolate), butterscotch pudding and chocolate mousse. Includes traditional milk-based sweets prepared from milk concentrated partially, from *khoa* (cow or buffalo milk concentrated by boiling), or *chhena* (cow or buffalo milk, heat coagulated aided by acids like citric acid, lactic acid, malic acid, etc), sugar or synthetic sweetener, and other ingredients (e.g. *maida* (refined wheat flour), flavours and colours (e.g. *peda*, *burfee*, milk cake, *gulab jamun*, *rasgulla*, *rasmalai*, *basundi*). These products are different from those in food category 03.0 (edible ices, including sherbet and sorbet) in that the foods in category 01.7 are dairy-based, while those in 03.0 are water-based and contain no dairy ingredients.

01.8 Whey and whey products, excluding whey cheeses:

Includes a variety of whey-based products in liquid and powdered forms.

01.8.1 Liquid whey and whey products, excluding whey cheeses:

Whey is the fluid separated from the curd after coagulation of milk, cream, skimmed milk or buttermilk with milk coagulating enzymes during the manufacture of cheese, casein or similar products. Acid whey is obtained after the coagulation of milk, cream, skimmed milk or buttermilk, mainly with acids of the type used for the manufacture of fresh cheese.²⁸

01.8.2 Dried whey and whey products, excluding whey cheeses:

Whey powders are prepared by spray- or roller-drying whey or acid whey from which the major portion of the milkfat has been removed.²⁸

02.0 Fats and oils, and fat emulsions:

Includes all fat-based products that are derived from vegetable, animal or marine sources, or their mixtures.

²⁶ *Food Chemistry*, H.-D. Belitz & W. Grosch, Springer-Verlag, Heidelberg, 1987, pp. 400.

²⁷ *Standard for Fermented Milks* (CODEX STAN 243-2003).

²⁸ *Standard for Whey Powders* (CODEX STAN 289-1995).

02.1 Fats and oils essentially free from water:

Edible fats and oils are foods composed mainly of triglycerides of fatty acids from vegetable, animal or marine sources.²⁹

02.1.1 Butter oil, anhydrous milkfat, ghee:

The milkfat products anhydrous milkfat, anhydrous butter oil and butter oil are products derived exclusively from milk and/or products obtained from milk by a process that almost completely removes water and non-fat solids. Ghee is a product obtained exclusively from milk, cream or butter by a process that almost completely removes water and non-fat solids; it has a specially developed flavour and physical structure.³⁰

02.1.2 Vegetable oils and fats:

Edible fats and oils obtained from edible plant sources. Products may be from a single plant source or marketed and used as blended oils that are generally designated as edible, cooking, frying, table or salad oils.³¹ Virgin oils are obtained by mechanical means (e.g. pressing or expelling), with application of heat only so as not to alter the natural composition of the oil. Virgin oils are suitable for consumption in the natural state. Cold pressed oils are obtained by mechanical means without application of heat.^{29,32} Examples include: virgin olive oil, cottonseed oil, peanut oil, and vanaspati.

02.1.3 Lard, tallow, fish oil, and other animal fats:

All animal fats and oils should be derived from animals in good health at the time of slaughter and intended for human consumption. Lard is fat rendered from the fatty tissue of swine. Edible beef fat is obtained from fresh bovine fatty tissue covering the abdominal cavity and surrounding the kidney and heart, and from other compact, undamaged fat tissues. Such fresh fat obtained at the time of slaughter is the "killing fat." Prime beef fat (premiere jus or oleo stock) is obtained by low-heat rendering (50-55°C) of killing fat and selected fat trimmings (cutting fat). Secunda beef fat is a product with typical beef fat odour and taste obtained by rendering (60-65°C) and purifying beef fat. Rendered pork fat is fat obtained from the tissue and bones of swine. Edible tallow (dripping) is produced by the rendering of fatty tissue (excluding trimmings and cutting fat), attached muscles and bones of bovine animals or sheep. Fish oils are derived from suitable sources such as herring, sardines, sprat, and anchovies.^{33,34} Other examples include: tallow and partially defatted beef or pork fatty tissue.

02.2 Fat emulsions mainly of type water-in-oil:

Include all emulsified products excluding fat-based counterparts of dairy products and dairy desserts.

02.2.1 Butter:

Butter is a fatty product consisting of a primarily water-in-oil emulsion derived exclusively from milk and/or products obtained from milk.³⁵

02.2.2 Fat spreads, dairy fat spreads and blended spreads:

Includes fat spreads (emulsions principally of the type water and edible fats and oils), dairy fat spreads (emulsions principally of the type water-in-milkfat), and blended spreads (fat spreads blended with higher amounts of milkfat).³⁶ Examples include margarine (a spreadable or fluid water-in-oil emulsion produced mainly from edible fats and oils); products derived from butter (e.g. "butterine," a spreadable butter blend with vegetable oils)³⁷ blends of butter and margarine; and minarine (a spreadable water-in-oil emulsion produced principally from water and edible fats and oils that are not solely derived from milk). Also includes reduced fat-based products derived from milkfat or from animal or vegetable fats, including reduced-fat counterparts of butter, margarine, and their mixtures (e.g. three-quarter fat butter, three-quarter fat margarine, or three-quarter fat butter-margarine blends).

²⁹ *General Standard for Edible Fats and Oils Not Covered by Individual Standards* (CODEX STAN 19-1981).

³⁰ *Standard for Milkfat Products* (CODEX STAN 280-1973).

³¹ *Food Chemistry*, H.-D. Belitz & W. Grosch, Springer-Verlag, Heidelberg, 1987, pp. 472-476.

³² *Standard for Olive Oils and Olive Pomace Oils* (CODEX STAN 33-1981); and *Standard for Named Vegetable Oils* (CODEX STAN 210-1999).

³³ *Food Chemistry*, H.-D. Belitz & W. Grosch, Springer-Verlag, Heidelberg, 1987, pp. 472-476.

³⁴ *Standard for Named Animal Fats* (CODEX STAN 211-1999).

³⁵ *Standard for Butter* (CODEX STAN 279-1971).

³⁶ *Standard for Dairy Fat Spreads* (CODEX STAN 253-2006); and *Standard for Fat Spreads and Blended Spreads* (CODEX STAN 256-2007).

³⁷ *Food Chemistry*, H.-D. Belitz & W. Grosch, Springer-Verlag, Heidelberg, 1987, p. 395.

02.3 Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions:

Includes fat-based counterparts of dairy-based foods excluding dessert products. The fat portion of these products are derived from sources other than milkfat (e.g. vegetable fats and oils). Examples include: imitation milk (a fat-substituted milk produced from non-fat milk solids by addition of vegetable fats (coconut, safflower or corn oil)),¹³ non-dairy whipped cream; non-dairy toppings; and vegetable cream. Mayonnaise is included in food category 12.6.1.

02.4 Fat-based desserts excluding dairy-based dessert products of food category 01.7:

Includes fat-based counterparts of dairy-based desserts, which are found in category 01.7. Includes ready-to-eat products and their mixes. Also includes non-dairy fillings for desserts. An example is an ice cream-like product made with vegetable fats.

03.0 Edible ices, including sherbet and sorbet:

This category includes water-based frozen desserts, confections and novelties, such as fruit sorbet, "Italian"-style ice, and flavoured ice. Frozen desserts containing primarily dairy ingredients are included in food category 01.7.

04.0 Fruits and vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds:

This major category is divided into two categories: 04.1 (Fruit) and 04.2 (Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds). Each of these categories is further divided into sub-categories for fresh and processed products.

04.1 Fruit:

Includes all fresh (04.1.1) and processed (04.1.2) products.

04.1.1 Fresh fruit:

Fresh fruit is generally free of additives. However, fresh fruit that is coated or cut or peeled for presentation to the consumer may contain additives.

04.1.1.1 Untreated fresh fruit:

Raw fruit presented fresh from harvest.

04.1.1.2 Surface-treated fresh fruit:

The surfaces of certain fresh fruit are coated with glazes or waxes or are treated with other food additives that act as protective coatings and/or help to preserve the freshness and quality of the fruit. Examples include apples, oranges, dates, and longans.

04.1.1.3 Peeled or cut fresh fruit:

Fresh fruit that is cut or peeled and presented to the consumer, e.g. in a fruit salad. Includes fresh shredded or flaked coconut.

04.1.2 Processed fruit:

Includes all forms of processing other than peeling, cutting and surface treating fresh fruit.

04.1.2.1 Frozen fruit:

Fruit that may or may not be blanched prior to freezing. The product may be frozen in a juice or sugar syrup.³⁸ Examples include frozen fruit salad and frozen strawberries.

04.1.2.2 Dried fruit:

Fruit from which water is removed to prevent microbial growth.³⁸ Includes dried fruit leathers (fruit rolls) prepared by drying fruit purees. Examples include dried apple slices, raisins, dried shredded or flaked coconut, and prunes.

³⁸ *Food Chemistry*, H.-D. Belitz & W. Grosch, Springer-Verlag, Heidelberg, 1987, pp. 613-617.

04.1.2.3 Fruit in vinegar, oil, or brine:

Includes pickled products such as pickled plums, mango pickles, lime pickles, pickled gooseberries, and pickled watermelon rind. Oriental pickled (“cured” or “preserved”) fruit products are sometimes referred to as “candied” fruit.³⁹ These are not the candied fruit products of category 04.1.2.7 (i.e. dried, sugar coated fruit).

04.1.2.4 Canned or bottled (pasteurized) fruit:

Fully preserved product in which fresh fruit is cleaned and placed in cans or jars with natural juice or sugar syrup (including artificially sweetened syrup) and heat-sterilized or pasteurized.³⁸ Includes products processed in retort pouches. Examples include: canned fruit salad, and applesauce in jars.

04.1.2.5 Jams, jellies, marmalades:

Jams, preserves and conserves are thick, spreadable products prepared by boiling whole fruit or pieces of fruit, fruit pulp or puree, with or without fruit juice or concentrated fruit juice, and sugar to thicken, and to which pectin and fruit pieces may be added. Jelly is a clear spreadable product prepared similarly to jam, except that it has a smoother consistency and does not contain fruit pieces. Marmalade is a thick spreadable fruit slurry prepared from whole fruit, fruit pulp or puree (usually citrus), and boiled with sugar to thicken, to which pectin and fruit pieces and fruit peel pieces may be added.^{38,40} Includes dietetic counterparts made with non-nutritive high-intensity sweeteners. Examples include: orange marmalade, grape jelly, and strawberry jam.

04.1.2.6 Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5:

Includes all other fruit-based spreads, such as apple butter and lemon curd. Also includes condiment-type fruit products such as mango chutney and raisin chutney.

04.1.2.7 Candied fruit:

Includes glazed fruits (fruit treated with a sugar solution and dried), candied fruit (dried glazed fruit immersed in a sugar solution and dried so that the fruit is covered by a candy-like sugar shell), and crystallized fruit is prepared (dried glazed fruit rolled in icing or granulated sugar and dried).³⁸ Examples include: cocktail (maraschino) cherries, candied citrus peel, candied citrons (e.g. used in holiday fruitcakes), and mostarda di frutta.

04.1.2.8 Fruit preparations, including pulp, purees, fruit toppings and coconut milk:

Fruit pulp is not usually intended for direct consumption. It is a slurry of lightly steamed and strained fresh fruit, with or without added preservatives. Fruit puree (e.g. mango puree, prune puree) is produced in the same way, but has a smoother, finer texture, and may be used as fillings for pastries, but is not limited to this use. Fruit sauce (e.g. pineapple sauce or strawberry sauce) is made from boiled fruit pulp with or without added sweeteners and may contain fruit pieces. Fruit sauce may be used as toppings for fine bakery wares and ice cream sundaes. Fruit syrup (e.g. blueberry syrup) is a more liquid form of fruit sauce that may be used as a topping e.g. for pancakes.³⁸ Non-fruit toppings are included in category 05.4 (sugar- and chocolate-based toppings) and sugar syrups (e.g. maple syrup) are included in category 11.4. Coconut milk and coconut cream are products prepared using a significant amount of separated, whole, disintegrated macerated or comminuted fresh endosperm (kernel) of coconut palm and expelled, where most filterable fibers and residues are excluded, with or without coconut water, and/or with additional water. Coconut milk and coconut cream are treated by heat pasteurization, sterilization or ultrahigh temperature (UHT) processes. Coconut milk and coconut cream may also be produced in concentrated or skim (or “light”) forms.⁴¹ Examples of traditional foods in this sub-category are: tamarind concentrate (clean extract of tamarind fruit with not less than 65% total soluble solids), tamarind powder (tamarind paste mixed with tapioca starch), tamarind toffee (mixture of tamarind pulp, sugar, milk solids, antioxidants, flavours, stabilizers and preservatives), and fruit bars (a mixture of fruit (mango, pineapple, or guava) pulp mixed with sugar, flavours and preservatives, dried into a sheet).

04.1.2.9 Fruit-based desserts, incl. fruit-flavoured water-based desserts:

Includes the ready-to-eat products and mixes. Includes fruit-flavoured gelatine, rote gruze, frutgrod, fruit compote, nata de coco, and *mitsumame* (gelatine-like dessert of agar jelly, fruit pieces and syrup). This category does not include fine bakery wares containing fruit (categories 07.2.1 and 07.2.2), fruit-flavoured edible ices (category 03.0), or fruit-containing frozen dairy desserts (category 01.7).

³⁹ *Asian Foods: Science and Technology*, C.Y.W. Ang, K.S. Liu, & Y.-W. Huang, Eds., Chapter 10: Fruit Products, J.X. Shi & B.S. Luh, Technomic Publishing Co., Lancaster PA 1999, p. 290.

⁴⁰ *Standard for Jams, Jellies and Marmalades* (CODEX STAN 296-2009).

⁴¹ *Standard for Aqueous Coconut Products - Coconut Milk and Coconut Cream* (CODEX STAN 240-2003).

04.1.2.10 Fermented fruit products:

Type of pickled product produced by preservation in salt by lactic acid fermentation. Examples include: fermented plums.

04.1.2.11 Fruit fillings for pastries:

Includes the ready-to-eat products and mixes. Includes all type of fillings excluding purees (category 04.1.2.8). These fillings usually include whole fruit or fruit pieces. Examples include: cherry pie filling and raisin filling for oatmeal cookies.

04.1.2.12 Cooked fruit:

Fruit that is steamed, boiled, baked, or fried, with or without a coating, for presentation to the consumer. Examples include: baked apples, fried apple rings, and peach dumplings (baked peaches with a sweet dough covering).

04.2 Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds:

Includes all fresh (04.2.1) and processed (04.2.2) products.

04.2.1 Fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds:

Fresh vegetables are generally free of additives. However, fresh vegetables that are coated or cut or peeled for presentation to the consumer may contain additives.

04.2.1.1 Untreated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes (including soybeans), and aloe vera), seaweeds, and nuts and seeds:

Raw vegetables presented fresh from harvest.

04.2.1.2 Surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds:

The surfaces of certain fresh vegetables are coated with glazes or waxes or are treated with other food additives that act as protective coatings and/or help to preserve the freshness and quality of the vegetable. Examples include: avocados, cucumbers, green peppers and pistachio nuts.

04.2.1.3 Peeled, cut or shredded fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds:

Fresh vegetables, e.g. peeled raw potatoes, that are presented to the consumer to be cooked at home (e.g. in the preparation of hash brown potatoes).

04.2.2 Processed vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds:

Includes all forms of processing other than peeling, cutting and surface treating fresh vegetables.

04.2.2.1 Frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds:

Fresh vegetables are usually blanched and frozen.⁴² Examples include: quick-frozen corn, quick-frozen French-fried potatoes, quick frozen peas, and quick frozen whole processed tomatoes.

04.2.2.2 Dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds:

Products in which the natural water content has been reduced below that critical for growth for microorganisms without affecting the important nutrients. The product may or may not be intended for rehydration prior to consumption. Includes vegetable powders that are obtained from drying the juice, such as tomato powder and beet powder.⁴² Examples include: dried potato flakes and dried lentil. Examples of Oriental dried products include: dried sea tangle (kelp; *kombu*), dried sea tangle with seasoning (*shio-kombu*), dried seaweed (*tororo-kombu*), dried gourd strips (*kampyo*), dried laver (*nori*), and dried laminariales (*wakame*).

⁴² *Food Chemistry*, H.-D. Belitz & W. Grosch, Springer-Verlag, Heidelberg, 1987, pp. 572-576.

04.2.2.3 Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweeds in vinegar, oil, brine, or soybean sauce:

Products prepared by treating raw vegetables with salt solution excluding fermented soybean products. Fermented vegetables, which are a type of pickled product, are classified in 04.2.2.7. Fermented soybean products are classified in 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3. Examples include: pickled cabbage, pickled cucumber, olives, pickled onions, mushrooms in oil, marinated artichoke hearts, achar, and piccalilli. Examples of Oriental-style pickled vegetables include: *tsukemono* such as rice bran pickled vegetables (*nuka-zuke*), *koji*-pickled vegetables (*koji-zuke*), sake lees-pickled vegetables (*kasu-zuke*), *miso*-pickled vegetables (*miso-zuke*), soybeansauce-pickled vegetables (*shoyu-zuke*), vinegar-pickled vegetables (*su-zuke*) and brine-pickled vegetables (*shio-zuke*). Other examples include: pickled ginger, pickled garlic, and chilli pickles.

04.2.2.4 Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds:

Fully preserved product in which fresh vegetables are cleaned, blanched, and placed in cans or jars in liquid (e.g. brine, water, oil or sauce), and heat-sterilized or pasteurized.⁴² Examples include: canned chestnuts, canned chestnut puree, asparagus packed in glass jars, canned and cooked pink beans, canned tomato paste (low acid), and canned tomatoes (pieces, wedges or whole).

04.2.2.5 Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g. peanut butter):

Vegetable purees are finely dispersed slurries prepared from the concentration of vegetables, which may have been previously heat-treated (e.g. steamed). The slurries may be filtered prior to packaging. Purees contain lower amounts of solids than pastes (found in category 04.2.2.6).^{42,43} Examples include: tomato puree, peanut butter (a spreadable paste made from roasted and ground peanuts by the addition of peanut oil), other nut butters (e.g. cashew butter), and pumpkin butter.

04.2.2.6 Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5:

Vegetable pastes and pulps are prepared as described for vegetable purees (category 04.2.2.5). However, pastes and pulps have a higher amount of solids, and are usually used as components of other foods (e.g. sauces). Examples include: potato pulp, horseradish pulp, aloe extract, salsa (e.g. chopped tomato, onion, peppers, spices and herbs), sweet red bean paste (*an*), sweet coffee bean paste (filling), tomato paste, tomato pulp, tomato sauce, crystallized ginger, and bean-based vegetable dessert (*namagashi*).

04.2.2.7 Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food category 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3:

Fermented vegetables are a type of pickled product, formed by the action of lactic acid bacteria, usually in the presence of salt.⁴² Traditional Oriental fermented vegetable products are prepared by air-drying vegetables and exposing them to ambient temperatures so as to allow the microorganisms to flourish; the vegetables are then sealed in an anaerobic environment and salt (to generate lactic acid), spices and seasonings are added.⁴⁴ Examples include: red pepper paste, fermented vegetable products (some *tsukemono* other than category 04.2.2.3), *kimchi* (fermented Chinese cabbage and vegetable preparation), and sauerkraut (fermented cabbage). Excludes fermented soybean products that are found in food categories 06.8.6 (fermented soybeans (e.g. *natto* and *tempe*)), 06.8.7 (fermented soybean curd), 12.9.1 (fermented soybean paste e.g. *miso*), 12.9.2.1 (fermented soybean sauce), and 12.9.2.3 (other soybean sauce).

04.2.2.8 Cooked or fried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweeds:

Vegetables that are steamed, boiled, baked, or fried, with or without a coating, for presentation to the consumer. Examples include: simmered beans, pre-fried potatoes, fried okra, and vegetables boiled down in soy sauce (*tsukudani*).

05.0 Confectionery:

Includes all cocoa and chocolate products (05.1), other confectionery products that may or may not contain cocoa (05.2), chewing gum (05.3), and decorations and icings (05.4), or foods produced solely with any combination of foods conforming to these sub-categories.

⁴³ *Standard for Processed Tomato Concentrates* (CODEX STAN 57-1981).

⁴⁴ *Asian Foods: Science and Technology*, C.Y.W. Ang, K.S. Liu, & Y.-W. Huang, Eds., Chapter 11: Vegetable Products, S.L. Wang, Technomic Publishing Co., Lancaster PA 1999, pp. 320-323.

05.1 Cocoa products and chocolate products including imitations and chocolate substitutes:

This category is divided to reflect the variety of standardized and non-standardized cocoa- and chocolate-based products.

05.1.1 Cocoa mixes (powders) and cocoa mass/cake:

Includes a variety of products that are used in the manufacture of other chocolate products or in the preparation of cocoa-based beverages. Most cocoa products have their origin in the cocoa nib, which is obtained from cocoa beans that have been cleaned and freed from the shells. Cocoa mass is obtained from the mechanical disintegration of the nib. Depending on the desired finished chocolate product, the cocoa nib or mass may be treated by an alkalization process that mellows the flavour. Cocoa dust is the fraction of the cocoa bean produced as a product during winnowing and degerming. Cocoa powder is produced by reducing the fat content of cocoa mass or liquor by pressing (including expeller pressing) and molding into a cocoa press cake. The cocoa press cake is disintegrated and ground to cocoa powder. Cocoa liquor is a homogeneous flowing paste produced from the cocoa nib, which has been roasted, dried, disintegrated and milled. Cocoa-sugar mixtures contain only cocoa powder and sugar. Chocolate powder for beverages is made from cocoa liquor or cocoa powder and sugar to which flavouring (e.g. vanillin) may be added.^{45,46} Examples include: drinking chocolate powder; breakfast cocoa; cocoa dust (fines), nibs, mass, press cake; chocolate liquor; cocoa mixes (powders for preparing the hot beverage); cocoa-sugar mixture; and dry mixes for sugar-cocoa confectionery. Finished cocoa beverages and chocolate milk are included in category 01.1.4, and most finished chocolate products are included in category 05.1.4.

05.1.2 Cocoa mixes (syrops):

Products that may be produced by adding a bacterial amylase to cocoa liquor. The enzyme prevents the syrup from thickening or setting by solubilizing and dextrinizing cocoa starch. Includes products such as chocolate syrup used to prepare chocolate milk or hot chocolate.⁴⁶ Chocolate syrup differs from fudge sauce (e.g. for ice cream sundaes), which is found in category 05.4.

05.1.3 Cocoa-based spreads, including fillings:

Products in which cocoa is mixed with other ingredients (usually fat-based) to prepare a spreadable paste that is used as a spread for bread or as a filling for fine bakery wares. Examples include: cocoa butter,⁴⁷ fillings for bonbons and chocolates, chocolate pie filling, and nut-chocolate based spreads for bread (*Nutella*-type product).

05.1.4 Cocoa and chocolate products:

Chocolate is produced from cocoa nibs, mass, press cake, powder, or liquor with or without addition of sugar, cocoa butter, aroma or flavouring substances, and optional ingredients (e.g. nuts).⁴⁶ This category is for chocolate as defined in the *Standard for Chocolate and Chocolate Products* (CODEX STAN 87-1981), and for confectionery that uses chocolate that meets the standard and may contain other ingredients, for example chocolate-covered nuts and fruit (e.g. raisins). This category includes only the chocolate portion of any confectionery within the scope of food category 05.2. Examples include: bonbons, cocoa butter confectionery (composed of cocoa butter, milk solids and sugar), white chocolate, chocolate chips (e.g. for baking), milk chocolate, cream chocolate, sweet chocolate, bitter chocolate, enrobing chocolate, chocolate covered in a sugar-based "shell" or with coloured decorations, filled chocolate (chocolate with a texturally distinct center and external coating, excluding flour confectionery and pastry products of categories 07.2.1 and 07.2.2) and chocolate with added edible ingredients.⁴⁸ This category does not include yoghurt-, cereal-, and honey-covered nuts (category 15.2).

05.1.5 Imitation chocolate, chocolate substitute products:

Includes chocolate-like products that may or may not be cocoa-based, but have similar organoleptic properties as chocolate, such as carob chips, and cocoa-based products that contain greater than 5% vegetable fat (other than cocoa butter) that are excluded from the scope of the *Standard for Chocolate and Chocolate Products* (CODEX STAN 87-1981). These chocolate-like products may contain additional optional ingredients and may include filled confectionery. Examples include: compound chocolate, flavoured and coloured compound chocolate, compound chocolate coatings, and imitation chocolate covered nuts and fruit (e.g. raisins). This category includes only the chocolate-like portion of any confectionery within the scope of food category 05.2.

⁴⁵ *Standard for Cocoa Powders (Cocoa) and Dry Mixtures of Cocoa and Sugars* (CODEX STAN 105-1981); *Standard for Cocoa (Cacao) Mass (Cocoa/Chocolate Liquor) and Cocoa Cake* (CODEX STAN 141-1981).

⁴⁶ *Food Chemistry*, H.-D. Belitz & W. Grosch, Springer-Verlag, Heidelberg, 1987, pp. 708-711.

⁴⁷ *Standard for Cocoa Butters* (CODEX STAN 86-1981).

⁴⁸ *Standard for Chocolate and Chocolate Products* (CODEX STAN 87-1981).

05.2 Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3, and 05.4:

Includes all types of products that primarily contain sugar and their dietetic counterparts and may or may not contain cocoa. Includes hard candy (05.2.1), soft candy (05.2.2), and nougats and marzipans (05.2.3).

05.2.1 Hard candy:

Products made from water and sugar (simple syrup), colour and flavour that may or may not have a filling, their dietetic counterparts, and products that may or may not contain cocoa. Includes: pastilles and lozenges (rolled, shaped and filled sweetened candy).⁴⁹ These types of products may be used as fillings for chocolate products within the scope of food categories 05.1.4 and 05.1.5.

05.2.2 Soft candy:

Products include soft, chewy products such as caramels (containing sugar syrup, fats, colour and flavour) and their dietetic counterparts; products that may or may not contain cocoa and milk (e.g. toffees and chocolate-flavoured caramels); jelly-based candies (e.g. jelly beans, jellied fruit paste covered in sugar, made from gelatin, pectin, colour and flavour); and licorice.⁴⁹ Also included are halwa teheniaa and oriental specialties, such as sweet bean jelly (*yokan*) and agar jelly for *mitsumame*. These types of products may be used as fillings for chocolate products within the scope of food categories 05.1.4 and 05.1.5.

05.2.3 Nougats and marzipans:

Nougats consist of roasted ground nuts, sugar and cocoa and their dietetic counterparts, that may be consumed as is, or may be used as a filling for chocolate products within the scope of food categories 05.1.4 and 05.1.5. Marzipan consists of almond paste and sugar and their dietetic counterparts, that may be shaped and coloured for direct consumption, or may be used as a filling for chocolate products within the scope of food categories 05.1.4 and 05.1.5.⁴⁹

05.3 Chewing gum:

Product made from natural or synthetic gum base containing flavours, sweeteners (nutritive or non-nutritive), aroma compounds, and other additives.⁴⁹ Includes bubble gum and breath-freshener gum products.

05.4 Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces:

Includes ready-to-eat icings and frostings for cakes, cookies, pies and bread and flour confectionery, as well as mixes for these products. Also includes sugar- and chocolate-based coatings for baked goods. Sweet sauces and toppings include butterscotch sauce for use, e.g. on ice cream. These sweet sauces are different than the syrups (e.g. maple, caramel, and flavoured syrups for fine bakery wares and ices) included in category 11.4. Fruit-based toppings are included in 04.1.2.8. Chocolate sauce is included in 05.1.2.

06.0 Cereals and cereal products derived from cereal grains, roots and tubers, pulses, legumes and pith or soft core of palm tree, excluding bakery wares of food category 07.0:

Includes unprocessed (06.1) and various processed forms of cereal and cereal-based products.

06.1 Whole, broken, or flaked grain, including rice:

Includes whole, husked, unprocessed cereals and grains. Examples include: barley, corn (maize), hops (for beer manufacture), oats, rice (including enriched, instant and parboiled), sorghum, soybeans, and wheat.

06.2 Flours and starches (including soybean powder):

The basic milled products of cereal grains, roots, tubers, pulses, pith or softy core of palm tree or legumes sold as such or used as ingredients (e.g. in baked goods).

06.2.1 Flours:

Flour is produced from the milling of grain, cereals and tubers (e.g. cassava) and pith or soft core of palm tree. Includes flour pastes for bread and flour confectionery, flour for bread, pastries, noodles and pasta, and flour mixes (physical mixtures of flours from different cereal or grain sources, which are different from mixes for bakery goods (dry mixes containing flour and other ingredients, categories 07.1.6 (mixes for ordinary bakery wares) and 07.2.3 (mixes for fine bakery wares)). Examples include: durum wheat flour, self-rising flour, enriched flour, instantized flour, corn flour, corn meal, bran, farina, roasted soybean flour (kinako), konjac flour (devil's tongue jelly powder, konnayaku-ko), and maida (refined wheat flour) and sago flour.

⁴⁹ *Food Chemistry*, H.-D. Belitz & W. Grosch, Springer-Verlag, Heidelberg, 1987, pp. 634-636.

06.2.2 Starches:

Starch is a glucose polymer occurring in granular form in certain plant species, notably seeds (e.g. cereals, pulses, corn, wheat, rice, beans, peas) and tubers (e.g. tapioca, potato). The polymer consists of linked anhydro-alpha-D-glucose units. Native starch is separated by processes that are specific for each raw material.

06.3 Breakfast cereals, including rolled oats:

Includes all ready-to-eat, instant, and regular hot breakfast cereal products. Examples include: granola-type breakfast cereals, instant oatmeal, farina, corn flakes, puffed wheat or rice, multi-grain (e.g. rice, wheat and corn) breakfast cereals, breakfast cereals made from soy or bran, and extruded-type breakfast cereals made from grain flour or powder.

06.4 Pastas and noodles and like products (e.g. rice paper, rice vermicelli, soybean pastas and noodles):

This food category was revised, with the understanding that there would be few, if any additives needed in dried pastas and noodles.⁵⁰ Includes all pasta, noodle and similar products.

06.4.1 Fresh pastas and noodles and like products:

Products that are untreated (i.e. not heated, boiled, steamed, cooked, pre-gelatinized or frozen) and are not dehydrated. These products are intended to be consumed soon after preparation. Examples include: unboiled noodles, and “skins” or crusts for spring rolls, wontons, and *shuo mai*.

06.4.2 Dried pastas and noodles and like products:

Products that are untreated (i.e. not heated, boiled, steamed, cooked, pre-gelatinized or frozen) and are dehydrated. Examples include dried forms of: spaghetti, bean vermicelli, rice vermicelli, macaroni, and rice noodles.

06.4.3 Pre-cooked pastas and noodles and like products:

Products that are treated (i.e. heated, boiled, steamed, cooked, pre-gelatinized or frozen). These products may be sold directly to the consumer (e.g. pre-cooked, chilled gnocchi to be heated prior to consumption), or may be the starch component of prepared meals (e.g. heat-and-serve frozen dinner entrees containing spaghetti, macaroni or noodles; canned spaghetti and meatballs entrée). Also includes instant noodles (*sokuseki-men*; e.g. pre-cooked ramen, udon, rice noodles), that are pre-gelatinized, heated and dried prior to sale to the consumer.

06.5 Cereal and starch based desserts (e.g. rice pudding, tapioca pudding):

Dessert products containing cereal, starch or grain as the main ingredient. Also includes cereal- or starch based fillings for desserts. Examples include: rice pudding, semolina pudding, tapioca pudding, rice flour dumplings (*dango*), a steamed yeast-fermented wheat flour dough dessert (*musipan*), and a starchy pudding based dessert (*namagashi*).

06.6 Batters (e.g. for breading or batters for fish or poultry):

Products containing flaked or ground cereal or grain that when combined with other ingredients (e.g. egg, water, milk) are used as a coating for fish or poultry. Products are usually sold as dry mix of the cereal or grain component. Examples include breading for *tempura* batter. Doughs (e.g. for bread) are found in 07.1.4, and other mixes (e.g. for bread or cakes) are found in 07.1.6 and 07.2.3, respectively.

06.7 Pre-cooked or processed rice products, including rice cakes (Oriental type only):

Products prepared from rice that is soaked, drained, steamed, kneaded and shaped into cake forms (e.g. Japanese *mochi*, Korean *teuck*).⁵¹ Crisp snacks made from rice grains, also called “rice cakes” are categorized in 15.1, and dessert-type rice cakes are in 06.5. Category 06.7 would also include processed rice and enriched rice products, such as pre-cooked products that are sold canned, chilled or frozen; and processed rice products sold in retort pouches. This is to distinguish from category 06.1 (Whole, broken, or flaked grain, including rice) that is intended to include only whole, husked, unprocessed cereals and grains.

06.8 Soybean products (excluding soybean-based seasonings and condiments of food category 12.9):

Includes dried, cooked, fried or fermented soybean products, and soybean curd products.

⁵⁰ ALINORM 03/12, para. 55.

⁵¹ *Asian Foods: Science and Technology*, C.Y.W. Ang, K.S. Liu, & Y.-W. Huang, Eds., Chapter 1: Rice Products, B.S. Luh, Technomic Publishing Co., Lancaster PA 1999, p. 16.

06.8.1 Soybean-based beverages

Products prepared from dried soybeans that are soaked in water, pureed, boiled and strained, or prepared from soybean flour, soybean concentrate, or soybean isolate. In a number of countries this category includes products referred to as soybean milk. Soybean-based beverages may be consumed as is, or used to prepare other soybean products, such as those in food categories 06.8.2 (soybean-based beverage film), 06.8.3 (soybean curd (tofu)), 06.8.4 (semi-dehydrated soybean curd), and 06.8.5 (dehydrated soybean curd (kori tofu))^{52,53,54}. Also includes soybean products, such as soybean-based beverage powder, which is sold as is, for reconstitution, or as a mix containing a coagulant that can be reconstituted by the consumer for preparation of home-made soft tofu.^{52,55}

06.8.2 Soybean-based beverage film:

Film formed on the surface of boiling soybean-based beverage that is dried. It may be deep-fried or softened in water prior to use in soups or poached food. Also known as *fuzhu* or *yuba*.^{55,56,57}

06.8.3 Soybean curd (tofu):

Soybean curd is prepared from dried soybeans that are soaked in water, pureed, and strained to produce soybean-based beverage, which is then made into a curd with a coagulant, and placed in a mould. Soybean curds may be of a variety of textures (e.g. soft, semi-firm, firm).^{52,53}

06.8.4 Semi-dehydrated soybean curd:

Soybean curd that has been pressed while being moulded into blocks so that some moisture has been removed, but so that it is not completely dried (see food category 06.8.5). Semi-dehydrated soybean curd typically contains 62% water, and has a chewy texture.⁵²

06.8.4.1 Thick gravy-stewed semi-dehydrated soybean curd:

Partially dehydrated soybean curd that is cooked (stewed) with a thick sauce (e.g. miso sauce). The partially dehydrated soybean curd typically absorbs the sauce, and so regains its original texture.⁵²

06.8.4.2 Deep fried semi-dehydrated soybean curd:

Partially dehydrated soybean curd that is deep-fried. It may be consumed as such, or cooked (e.g. stewed in sauce) after frying.^{52,58}

06.8.4.3 Semi-dehydrated soybean curd, other than food categories 06.8.4.1 and 06.8.4.2:

Partially dehydrated soybean curd prepared other than by stewing in thick (e.g. miso) sauce or by deep-frying. Includes grilled products and mashed products that may be combined with other ingredients (e.g. to make a patty or a loaf).⁵²

06.8.5 Dehydrated soybean curd (kori tofu):

Soybean curd from which all moisture has been removed through the process of freezing, aging, and dehydrating. It may be reconstituted with water or sauce for consumption, or is used directly in prepared dishes. It may also be deep-fried or simmered in sauce.⁵²

06.8.6 Fermented soybeans (e.g. natto, tempe):

The product is prepared from soybeans that have been steamed and fermented with certain fungi or bacteria (starter). The soft, whole beans have a distinctive aroma and taste. It includes products such as *dou chi* (China), *natto* (Japan), and *tempe* (Indonesia).

06.8.7 Fermented soybean curd:

The product is prepared by forming soybean curd into a loaf during the fermentation process. It is a soft, flavoured product, either in red, rice-yellow, or grey-green.

⁵² *The Joy of Japanese Cooking*, K. Takahashi, Shufunomoto Col., Ltd., Japan, 1996, pp. 17-18 and 123-131.

⁵³ *Taste of Japan*, D. Richie, Kodansha International, Tokyo, Japan, 1992, pp. 34-35.

⁵⁴ *Taste of Japan*, D. Richie, Kodansha International, Tokyo, Japan, 1992, pp.141-153.

⁵⁵ *World Food Japan*, Lonely Planet, 2002, p. 35.

⁵⁶ *Taste of Japan*, D. Richie, Kodansha International, Tokyo, Japan, 1992, pp. 168-169.

⁵⁷ *The Joy of Japanese Cooking*, K. Takahashi, Shufunomoto Col., Ltd., Japan, 1996, p. 31.

⁵⁸ *Asian Foods: Science and Technology*, C.Y.W. Ang, K.S. Liu, & Y.-W. Huang, Eds., Chapter 6: Oriental Soy Foods, K.S. Liu, Technomic Publishing Co., Lancaster PA 1999, pp. 162-163.

06.8.8 Other soybean protein products

Other products from soybeans composed mainly of soybean protein such as extruded, textured, concentrated, and isolated soybean protein.

07.0 Bakery wares:

Includes categories for bread and ordinary bakery wares (07.1) and for sweet, salty and savoury fine bakery wares (07.2).

07.1 Bread and ordinary bakery wares and mixes:

Includes all types of non-sweet bakery products and bread-derived products.

07.1.1 Breads and rolls:

Includes yeast-leavened and specialty breads and soda bread.

07.1.1.1 Yeast-leavened breads and specialty breads:

Includes all types of non-sweet bakery products and bread-derived products. Examples include: white bread, rye bread, pumpernickel bread, raisin bread, whole wheat bread, pain courant francais, malt bread, hamburger rolls, whole wheat rolls, and milk rolls.

07.1.1.2 Soda breads:

Includes soda breads.

07.1.2 Crackers, excluding sweet crackers:

The term “cracker” refers to a thin, crisp wafer, usually of unsweetened dough. Flavoured crackers (e.g. cheese flavoured) that are consumed as snacks are in 15.1. Examples include: soda crackers, rye crisps, and matzohs.

07.1.3 Other ordinary bakery products (e.g. bagels, pita, English muffins):

Includes all other ordinary bakery wares, such as cornbread and biscuits. The term “biscuit” in this category refers to a small cake of shortened bread, leavened with baking powder or baking soda. It does not refer to the British “biscuit,” which is a “cookie” or “sweet cracker” included in category 07.2.1.

07.1.4 Bread-type products, including bread stuffing and bread crumbs:

Includes bread-based products such as croutons, bread stuffing and stuffing mixes, and prepared doughs (e.g. for biscuits). Bread mixes are included in category 07.1.6.

07.1.5 Steamed breads and buns:

Oriental-style leavened wheat or rice products that are cooked in a steamer. Products may be made with or without filling. In China, products without filling are called steamed bread (*mantou*), and those with filling are called steamed buns (*baozi* or *bao*). Twisted rolls of various shapes (*huajuan*) may also be prepared.⁵⁹ Examples include: filled dumplings and steamed bun with meat, jam or other filling (*manjyu*).

07.1.6 Mixes for bread and ordinary bakery wares:

Includes all the mixes containing the dry ingredients to which wet ingredients (e.g. water, milk, oil, butter, eggs) are added to prepare a dough for baked goods from food categories 07.1.1 to 07.1.5. Examples include: French bread mix, tin bread mix, panettone mix, ciabatta mix, among others. Mixes for fine bakery wares (e.g. cakes, cookies, pancakes) are found in category 07.2.3.

07.2 Fine bakery wares (sweet, salty, savoury) and mixes:

Includes sub-categories for ready-to-eat products (07.2.1 and 07.2.2) as well as mixes (07.2.3) for preparing fine baked goods.

07.2.1 Cakes, cookies and pies (e.g. fruit-filled or custard types):

The term “sweet cracker” or “sweet biscuit” used in this category refers to a cookie-like product that may be eaten as a dessert. Examples include: butter cake, cheesecake, fruit-filled cereal bars, pound cake (including *kasutera*), moist cake (type of starchy dessert (*namagashi*)), western cakes, moon cakes, sponge cake, fruit-filled pies (e.g. apple pie), oatmeal cookies, sugar cookies and British “biscuits” (cookies or sweet crackers).

⁵⁹ *Asian Foods: Science and Technology*, C.Y.W. Ang, K.S. Liu, & Y.-W. Huang, Eds., Chapter 4: Wheat Products: 2. Breads, Cakes, Cookies, Pastries, and Dumplings, S. Huang, Technomic Publishing Co., Lancaster PA 1999, pp. 72-73.

07.2.2 Other fine bakery products (e.g. doughnuts, sweet rolls, scones, and muffins):

Includes products that may be eaten as a dessert or as breakfast. Examples include: pancakes, waffles, filled sweet buns (*anpan*), Danish pastry, wafers or cones for ice cream, flour confectionery, and trifles.

07.2.3 Mixes for fine bakery wares (e.g. cakes, pancakes):

Mixes containing the dry ingredients to which wet ingredients (e.g. water, milk, oil, butter, eggs) are added to prepare a dough for fine baked goods. Examples include: cake mix, flour confectionery mix, pancake mix, pie mix, and waffle mix. Prepared dough is found in category 07.1.4. Mixes for ordinary bakery wares (e.g. bread) is found in category 07.1.6.

08.0 Meat and meat products, including poultry and game:

This category includes all types of meat, poultry, and game products, in pieces and cuts or comminuted, fresh (08.1) and processed (08.2 and 08.3).

08.1 Fresh meat, poultry and game:

Fresh products are usually free of additives. However, in certain circumstances, additives are necessary. For example, colours are used for certification stamps on the surfaces of fresh cuts of meat, and are indicated in the Food Category System with a notation for “stamping, marking or branding the product.” Additionally, coatings, such as glazes and spice rubs, may be applied to meat products prior to marketing to the consumer (e.g. glazed ham, and barbecued chicken). In the Food Category System, this is indicated with a notation for “use as a glaze or coating (surface treatment).” It should be noted that the coatings marketed *per se* are included in food categories 04.1.2.8 (fruit-based glazes, e.g. for ham) and 12.2 (spice rubs).

08.1.1 Fresh meat, poultry and game, whole pieces or cuts:

Untreated raw meat, poultry and game carcasses and cuts. Examples include: beef, hog and pork carcasses; fresh beef blood; fresh whole chickens and chicken parts; fresh beef cuts (e.g. steaks); beef organs (e.g. heart, kidney); fresh tripe; and pork chops.

08.1.2 Fresh meat, poultry and game, comminuted:

Untreated raw comminuted or mechanically deboned meat, poultry and game. Examples include: fresh beef (hamburger) patties; boerewors; fresh breakfast sausages; gehakt (chopped meat); loganiza (fresh, uncured sausage); fresh meatballs; mechanically deboned, ground and formed poultry pieces (with or without breading or coating); and fresh sausages (e.g. beef, Italian, and pork).

08.2 Processed meat, poultry, and game products in whole pieces or cuts:

Includes various treatments for non-heat treated meat cuts (08.2.1) and heat-treated meat cuts (08.3.2).

08.2.1 Non-heat treated processed meat, poultry and game products in whole pieces or cuts:

This category describes several treatment methods (e.g. curing, salting, drying, pickling) that preserve and extend the shelf life of meats.

08.2.1.1 Cured (including salted) non-heat treated processed meat, poultry, and game products in whole pieces or cuts:

Salted products are treated with sodium chloride. Dry cured (dry pickled) products are prepared by rubbing salt directly on the meat surface. Wet pickle cured products are prepared by submerging the meat in a brine solution. Pump cured products are prepared by injecting brine into the meat. Curing may also be achieved by addition of additives. Smoked products are also included here.⁶⁰ Examples include: bacon (cured, dry-cured, immersion-cured, pump-cured); side bacon; corned beef; marinated beef; and different types of Oriental pickled products: miso-pickled meat (*miso-zuke*), koji-pickled meat (*koji-zuke*), and soy sauce-pickled meat (*shoyu-zuke*).

08.2.1.2 Cured (including salted) and dried non-heat treated processed meat, poultry, and game products in whole pieces or cuts:

The meat cuts may be cured or salted as described for category 08.2.1.1, and then dried, or they may only be dried. Drying is achieved either in hot air or in vacuum.⁶⁰ Examples include: dried salt pork, dehydrated meat, stuffed loin, Iberian ham, and prosciutto-type ham.

⁶⁰ *Food Chemistry*, H.-D. Belitz & W. Grosch, Springer-Verlag, Heidelberg, 1987, pp. 439-445.

08.2.1.3 Fermented non-heat treated processed meat, poultry, and game products in whole pieces or cuts:

Fermented products are a type of pickled product produced by the action of lactic acid bacteria in the presence of salt. Examples include: potted beef and pickled (fermented) pig's feet.

08.2.2 Heat-treated processed meat, poultry, and game products in whole pieces or cuts:

Includes cooked (including cured and cooked, and dried and cooked), heat-treated (including sterilized) and canned meat cuts. Examples include: cured, cooked ham; cured, cooked pork shoulder; canned chicken meat; and meat pieces boiled in soy sauce (*tsukudani*).

08.2.3 Frozen processed meat, poultry, and game products in whole pieces or cuts:

Includes raw and cooked meat cuts that have been frozen. Examples include: frozen whole chickens, frozen chicken parts, and frozen beef steaks.

08.3 Processed comminuted meat, poultry, and game products:

Includes various treatments for non-heat treated products (08.3.1) and heat-treated products (08.3.2).

08.3.1 Non-heat treated processed comminuted meat, poultry, and game products:

This category describes several treatment methods (e.g. curing, salting, drying, pickling) that preserve and extend the shelf life of comminuted and mechanically deboned meat products.

08.3.1.1 Cured (including salted) non-heat treated processed comminuted meat, poultry, and game products:

Salted products are treated with sodium chloride. Dry cured (dry pickled) products are prepared by rubbing salt directly on the meat surface. Wet pickle cured products are prepared by submerging the meat in a brine solution. Pump cured products are prepared by injecting brine into the meat. Curing may also be achieved by addition of additives. Also includes smoked products.⁶⁰ Examples include: chorizos (spicy pork sausages), salami-type products, salchichon, tocino (fresh, cured sausage), pepperoni, and smoked sausage.

08.3.1.2 Cured (including salted) and dried non-heat treated processed comminuted meat, poultry, and game products:

The comminuted or mechanically deboned products may be cured or salted as described for category 08.3.1.1, and then dried, or they may only be dried. Drying is achieved either in hot air or in vacuum.⁶⁰ Examples include: pasturmas, dried sausages, cured and dried sausages, beef jerky, Chinese sausages (including traditional cured or smoked pork sausage), and sobrasada.

08.3.1.3 Fermented non-heat treated processed comminuted meat, poultry, and game products:

Fermented products are a type of pickled product produced by the action of lactic acid bacteria in the presence of salt. Certain types of sausages may be fermented.

08.3.2 Heat-treated processed comminuted meat, poultry, and game products:

Includes cooked (including cured and cooked, and dried and cooked), heat-treated (including sterilized) and canned comminuted products. Examples include: pre-grilled beef patties; foie gras and pates; brawn and head cheese; cooked, cured chopped meat; chopped meat boiled in soy sauce (*tsukudani*); canned corned beef; luncheon meats; meat pastes; cooked meat patties; cooked salami-type products; cooked meatballs; sausices de strasbourg; breakfast sausages; brown-and-serve sausages; and terrines (a cooked chopped meat mixture).

08.3.3 Frozen processed comminuted meat, poultry, and game products:

Includes raw, partially cooked and fully cooked comminuted or mechanically deboned meat products that have been frozen. Examples include: frozen hamburger patties; frozen breaded or battered chicken fingers.

08.4 Edible casings (e.g. sausage casings):

Casings or tubing prepared from collagen, cellulose, or food-grade synthetic material or from natural sources (e.g. hog or sheep intestines) that contain the sausage mix.⁶⁰

09.0 Fish and fish products, including molluscs, crustaceans, and echinoderms:

This broad category is divided into categories for fresh fish (09.1) and various processed fish products (09.2 – 09.4). This category includes aquatic vertebrates (fish and aquatic mammals (e.g. whales)), aquatic invertebrates (e.g. jellyfish), as well as molluscs (e.g. clams, snails), crustaceans (e.g. shrimp, crab, lobster), and echinoderms (e.g. sea urchins, sea cucumbers). Fish products may be treated with coatings, such as glazes and spice rubs, prior to marketing to the consumer (e.g. glazed frozen fish fillets). In the Food Category System, this is indicated with a notation for “use as a glaze or coating (surface treatment).”

09.1 Fresh fish and fish products, including molluscs, crustaceans, and echinoderms:

The term “fresh” refers to fish and fish products that are untreated except for refrigeration, storage on ice, or freezing upon catching at sea or in lakes or other bodies of water in order to prevent decomposition and spoilage.⁶¹

091.1. Fresh fish:

Includes fresh whale meat, cod, salmon, trout, etc.; and fresh fish roe.

09.1.2 Fresh molluscs, crustaceans and echinoderms:

Includes fresh shrimp, clams, crabs, lobster, snails, etc.

09.2 Processed fish and fish products, including molluscs, crustaceans, and echinoderms:

This category refers to fish products that are frozen and may require further cooking, as well as ready-to-eat cooked, smoked, dried, fermented, and salted products.

09.2.1 Frozen fish, fish fillets, and fish products, including molluscs, crustaceans, and echinoderms:

Fresh, including partially cooked, fish subjected to freezing or quick-freezing at sea and on land for further processing.⁶¹ Examples include: frozen or deep frozen clams, cod fillets, crab, finfish, haddock, hake, lobster, minced fish, prawns and shrimp; frozen fish roe; frozen surimi; and frozen whale meat.

09.2.2 Frozen battered fish, fish fillets and fish products, including molluscs, crustaceans, and echinoderms:

Uncooked product prepared from fish or fish portions, with dressing in eggs and bread crumbs or batter. Examples include: frozen raw breaded or batter-coated shrimp; and frozen or quick-frozen breaded or batter-coated fish fillets, fish portions and fish sticks (fish fingers).⁶²

09.2.3 Frozen minced and creamed fish products, including molluscs, crustaceans, and echinoderms:

Uncooked product prepared from minced fish pieces in cream-type sauce.

09.2.4 Cooked and/or fried fish and fish products, including molluscs, crustaceans, and echinoderms:

Includes all ready-to-eat cooked products as described in the sub-categories.

09.2.4.1 Cooked fish and fish products:

Cooked products include steamed, boiled or any other cooking method except frying (see 09.2.4.3). The fish may be whole, in portions or comminuted. Examples include: fish sausage; cooked fish products boiled down in soy sauce (*tsukudani*); cooked surimi product (*kamaboko*); crab-flavoured cooked *kamaboko* product (*kanikama*); cooked fish roe; cooked surimi; cooked, tube-shaped surimi product (*chikuwa*); and cooked fish and lobster paste (surimi-like products). Other fish paste (Oriental type) is found in 09.3.4.

09.2.4.2 Cooked molluscs, crustaceans, and echinoderms:

Cooked products include steamed, boiled or any other cooking method except frying (see 09.2.4.3). Examples include: cooked *crangon crangon* and *crangon vulgaris* (brown shrimp; cooked shrimp, clams and crabs).

09.2.4.3 Fried fish and fish products, including molluscs, crustaceans, and echinoderms:

Ready-to-eat products prepared from fish or fish portions, with or without further dressing in eggs and bread crumbs or batter, that are fried, baked, roasted or barbecued, and then packaged or canned with or without sauce or oil.⁶¹ Examples include: ready-to-eat fried surimi, fried calamari, and fried soft-shell crabs.

09.2.5 Smoked, dried, fermented, and/or salted fish and fish products, including molluscs, crustaceans, and echinoderms:

Smoked fish are usually prepared from fresh deep frozen or frozen fish that are dried directly or after boiling, with or without salting, by exposing the fish to freshly-generated sawdust smoke. Dried fish are prepared by exposing the fish to sunlight or drying directly or after boiling in a special installation; the fish may be salted prior to drying. Salted fish are either rubbed with salt or placed in a salt solution. This manufacturing process is different from that described in food category 09.3 for marinated and pickled fish. Cured fish is prepared by salting and then smoking fish.⁶¹ Examples include: salted anchovies, shrimp, and shad; smoked chub, cuttlefish and octopus; fish ham; dried and salted species of the *Gadidae* species; smoked or salted fish paste and fish roe; cured and smoked sablefish, shad, and salmon; dried shellfish, dried bonito (*katsuobushi*), and boiled, dried fish (*niboshi*).

⁶¹ *Food Chemistry*, H.-D. Belitz & W. Grosch, Springer-Verlag, Heidelberg, 1987, pp. 464-468.

⁶² *Standard for Quick Frozen Fish Sticks (Fish Fingers), Fish Portions and Fish Fillets – Breaded and in Batter* (CODEX STAN 166-1989).

09.3 Semi-preserved fish and fish products, including molluscs, crustaceans, and echinoderms:

Includes products treated by methods such as marinating, pickling and partial cooking that have a limited shelf life.

09.3.1 Fish and fish products, including molluscs, crustaceans, and echinoderms, marinated and/or in jelly:

Marinated products are manufactured by soaking the fish in vinegar or wine with or without added salt and spices. They are packaged in jars or cans and have a limited shelf life. Products in jelly may be manufactured by tenderizing fish products by cooking or steaming, adding vinegar or wine, salt and preservatives, and solidifying in a jelly. Examples include: "rollmops" (a type of marinated herring), sea eel (dogfish) in jelly and fish aspic.⁶¹

09.3.2 Fish and fish products, including molluscs, crustaceans, and echinoderms, pickled and/or in brine:

Pickled products are sometimes considered a type of marinated product. Pickling results from the treatment of the fish with a salt and vinegar or alcohol (e.g. wine) solution.⁶¹ Examples include: different types of Oriental pickled products: *koji*-pickled fish (*koji-zuke*), lees-pickled fish (*kasu-zuke*), *miso*-pickled fish (*miso-zuke*), soy sauce-pickled fish (*shoyu-zuke*), and vinegar-pickled fish (*su-zuke*); pickled whale meat; and pickled herring and sprat.

09.3.3 Salmon substitutes, caviar, and other fish roe products:

Roe is usually produced by washing, salting and allowing to ripen until transparent. The roe is then packaged in glass or other suitable containers. The term "caviar" refers only to the roe of the sturgeon species (e.g. beluga). Caviar substitutes are made of roe of various sea and freshwater fish (e.g. cod and herring) that are salted, spiced, dyed and may be treated with a preservative.⁶¹ Examples include: salted salmon roe (*sujiko*), processed, salted salmon roe (*ikura*), cod roe, salted cod roe (*tarako*) and lumpfish caviar. Occasionally, roe may be pasteurized. In this case, it is included in food category 09.4, since it is a fully preserved product. Roe products that are frozen, cooked or smoked are included in category 09.2.1, 09.2.4.1, and 09.2.5, respectively; fresh fish roe is found in category 09.1.1.

09.3.4 Semi-preserved fish and fish products, including molluscs, crustaceans, and echinoderms (e.g. fish paste), excluding products of food categories 09.3.1 – 0.9.3.3:

Examples include fish or crustacean pates and traditional Oriental fish paste. The latter is produced from fresh fish or the residue from fish sauce production, which is combined with other ingredients such as wheat flour, bran, rice or soybeans. The product may be further fermented.⁶³ Cooked fish or crustacean pastes (surimi-like products) are found in 09.2.4.1 and 09.2.4.2, respectively.

09.4 Fully preserved, including canned or fermented fish and fish products, including molluscs, crustaceans, and echinoderms:

Products with extended shelf life, manufactured by pasteurizing or steam retorting and packaging in vacuum-sealed air-tight containers to ensure sterility. Products may be packed in their own juice or in added oil or sauce.⁶¹ This category excludes fully cooked products (see category 09.2.4). Examples include: canned tuna, clams, crab, fish roe and sardines; gefilte fish balls; and surimi (heat-pasteurized).

10.0 Eggs and egg products:

Includes fresh in-shell eggs (10.1), products that may substitute for fresh eggs (10.2) and other egg products (10.3 and 10.4).

10.1 Fresh eggs:

Fresh in-shell eggs are not expected to contain additives. However, colours may be used for decorating, dyeing or stamping the exterior surfaces of shell eggs. In the Food Category System, a notation for "for decoration, stamping, marking or branding the product (surface treatment) accommodates this.

10.2 Egg products:

Products that may be used as replacement for fresh eggs in recipes or as a food (e.g. omelette). They are produced from fresh eggs by either (i) mixing and purifying the whole egg; or (ii) separating the egg white and yolk, and then mixing and purifying each separately. The purified whole egg, white or yolk is then further processed to produce liquid, frozen or dried eggs as described below.⁶⁴

⁶³ *Asian Foods: Science and Technology*, C.Y.W. Ang, K.S. Liu, & Y.-W. Huang, Eds., Chapter 9: Traditional Oriental Seafood Products, Y.-W. Huang & C.-Y. Huang, Technomic Publishing Co., Lancaster PA 1999, p. 264.

⁶⁴ *Food Chemistry*, H.-D. Belitz & W. Grosch, Springer-Verlag, Heidelberg, 1987, pp. 411-414.

10.2.1 Liquid egg products:

The purified whole egg, egg yolk or egg white is pasteurized and chemically preserved (e.g. by addition of salt).

10.2.2 Frozen egg products:

The purified whole egg, egg yolk or egg white is pasteurized and frozen.

10.2.3 Dried and/or heat coagulated egg products:

Sugars are removed from the purified whole egg, egg yolk or egg white, which is then pasteurized and dried.

10.3 Preserved eggs, including alkaline, salted, and canned eggs:

Includes traditional Oriental preserved products, such as salt-cured duck eggs (*Hueidan*), and alkaline treated "thousand-year-old-eggs" (*pidan*).⁶⁵

10.4 Egg-based desserts (e.g. custard):

Includes ready-to-eat products and products to be prepared from a dry mix. Examples include: flan and egg custard. Also includes custard fillings for fine bakery wares (e.g. pies).

11.0 Sweeteners, including honey:

Includes all standardized sugars (11.1), non-standardized products (e.g. 11.2, 11.3, 11.4 and 11.6), and natural sweeteners (11.5 – honey).

11.1 Refined and raw sugars:

Nutritive sweeteners, such as fully or partially purified sucrose (derived from sugar beet and sugar cane), glucose (derived from starch), or fructose, that are included in sub-categories 11.1.1 to 11.1.5.

11.1.1 White sugar, dextrose anhydrous, dextrose monohydrate, fructose:

White sugar is purified and crystallized sucrose with a polarisation of not less than 99.7°Z. Dextrose anhydrous is purified and crystallized D-glucose without water of crystallization. Dextrose monohydrate is purified and crystallized D-glucose with one molecule of water of crystallization. Fructose is purified and crystallized D-fructose.⁶⁶

11.1.2 Powdered sugar, powdered dextrose:

Powdered sugar (icing sugar) is finely pulverized white sugar with or without added anticaking agents. Powdered dextrose (icing dextrose) is finely pulverized dextrose anhydrous or dextrose monohydrate, or a mixture of the two, with or without added anticaking agents.⁶⁶

11.1.3 Soft white sugar, soft brown sugar, glucose syrup, dried glucose syrup, raw cane sugar:

Soft white sugar is fine grain purified, moist sugar, that is white in colour. Soft brown sugar is fine grain moist sugar that is light to dark brown in colour. Glucose syrup is a purified concentrated aqueous solution of nutritive saccharides derived from starch and/or inulin.⁶⁷ Dried glucose syrup is glucose syrup from which water has been partially removed. Raw cane sugar is partially purified sucrose crystallized from partially purified cane juice without further purification.⁶⁶

11.1.3.1 Dried glucose syrup used to manufacture sugar confectionery:

Dried glucose syrup, as described in 11.1.3, used to manufacture candy products that are included in food category 05.2 (e.g. hard or soft candies).

11.1.3.2 Glucose syrup used to manufacture sugar confectionery:

Glucose syrup, as described in 11.1.3, used to manufacture candy products that are included in food category 05.2 (e.g. hard or soft candies).

11.1.4 Lactose:

A natural constituent of milk normally obtained from whey. It may be anhydrous, or contain one molecule of water of crystallization, or be a mixture of both forms.⁶⁶

⁶⁵ *Asian Foods: Science and Technology*, C.Y.W. Ang, K.S. Liu, & Y.-W. Huang, Eds., Chapter 8: Traditional Poultry and Egg Products, T.C. Chen, Technomic Publishing Co., Lancaster PA 1999, pp. 240-244.

⁶⁶ *Standard for Sugars* (CODEX STAN 212-1999).

⁶⁷ *Food Chemistry*, H.-D. Belitz & W. Grosch, Springer-Verlag, Heidelberg, 1987, p. 631-633.

11.1.5 Plantation or mill white sugar:

Purified and crystallized sucrose with a polarisation of not less than 99.5°Z.⁶⁶

11.2 Brown sugar excluding products of food category 11.1.3:

Includes large-grain, brown or yellow lump sugars, such as Demerara sugar.

11.3 Sugar solutions and syrups, also (partially) inverted, including treacle and molasses, excluding products of food category 11.1.3:

Includes co-products of the sugar refining process (e.g. treacle and molasses), invert sugar (equimolar mixture of glucose and fructose produced from the hydrolysis of sucrose),⁶⁷ and other sweeteners, such as high fructose corn syrup, high fructose inulin syrup and corn sugar.

11.4 Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings):

Includes all types of table syrups (e.g. maple syrup), syrups for fine bakery wares and ices (e.g. caramel syrup, flavoured syrups), and decorative sugar toppings (e.g. coloured sugar crystals for cookies).

11.5 Honey:

Honey is the natural sweet substance produced by honeybees from the nectar of blossoms or secretions of plants. The honeybees collect the nectar or secretions, transform it by combination with specific substances of the bees' own, and store it in a honeycomb to ripen and mature.⁶⁸ Examples of honey include wildflower honey and clover honey.

11.6 Table-top sweeteners, including those containing high-intensity sweeteners:

Includes products that are preparations of high-intensity sweeteners (e.g. acesulfame potassium) and/or of polyols (e.g. sorbitol) which may contain other additives and/or nutritive ingredients, such as carbohydrates. These products, which are sold to the final consumer, may be in powder, solid (e.g. tablets or cubes), or liquid form.

12.0 Salts, spices, soups, sauces, salads, protein products:

This is a broad category that includes substances added to food to enhance its aroma and taste (12.1 – salt and salt substitutes; 12.2 – herbs, spices, seasonings and condiments (e.g. seasoning for instant noodles); 12.3 – vinegars; and 12.4 - mustards), certain prepared foods (12.5 – soups and broths; 12.6 – sauces and like products; and 12.7 – salads (e.g. macaroni salad, potato salad) and sandwich spreads, excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3)), and products composed primarily of protein that are derived from soybeans or from other sources (e.g. milk, cereal, or vegetables) (12.9 - soybean-based seasonings and condiments; and 12.10 – protein products other than from soybeans).

12.1 Salt and salt substitutes:

Includes salt (12.1.1.) and salt substitutes (12.1.2) used as seasoning for food.

12.1.1 Salt:

Primarily food-grade sodium chloride. Includes table salt, iodized and fluoride iodized salt, and dendritic salt.

12.1.2 Salt substitutes:

Salt substitutes are seasonings with reduced sodium content intended to be used on food in place of salt.

12.2 Herbs, spices, seasonings, and condiments (e.g. seasoning for instant noodles):

This category describes items whose use is intended to enhance the aroma and taste of food.

12.2.1 Herbs and spices:

Herbs and spices are usually derived from botanical sources, and may be dehydrated, and either ground or whole. Examples of herbs include basil, oregano and thyme. Examples of spices include cumin and caraway seeds. Spices may also be found as blends in powder or paste form. Examples of spice blends include chilli seasoning, chilli paste, curry paste, curry roux, and dry cures or rubs that are applied to external surfaces of meat or fish.

⁶⁸ *Food Chemistry*, H.-D. Belitz & W. Grosch, Springer-Verlag, Heidelberg, 1987, p. 636. *Standard for Honey* (CODEX STAN 12-1981).

12.2.2 Seasonings and condiments:

Condiments include seasonings such as meat tenderizers, onion salt, garlic salt, Oriental seasoning mix (*dashi*), topping to sprinkle on rice (*furikake*, containing, e.g. dried seaweed flakes, sesame seeds and seasoning), and seasoning for noodles. The term “condiments” as used in the Food Category System does not include condiment sauces (e.g. ketchup, mayonnaise, mustard) or relishes.

12.3 Vinegars:

Liquid produced from fermentation of ethanol from a suitable source (e.g. wine, cider). Examples include, cider vinegar, wine vinegar, malt vinegar, spirit vinegar, grain vinegar, raisin vinegar, and fruit (wine) vinegar.⁶⁹

12.4 Mustards:

Condiment sauce prepared from ground, often defatted mustard seed that is mixed into a slurry with water, vinegar, salt, oil and other spices and refined. Examples include Dijon mustard, and “hot” mustard (prepared from seeds with hulls).⁷⁰

12.5 Soups and broths:

Includes ready-to-eat soups and mixes. The finished products may be water- (e.g. consommé) or milk-based (e.g. chowder).

12.5.1 Ready-to-eat soups and broths, including canned, bottled, and frozen:

Water- or milk-based products consisting of vegetable, meat or fish broth with or without other ingredients (e.g. vegetables, meat, noodles). Examples include: bouillon, broths, consommés, water- and cream-based soups, chowders, and bisques.

12.5.2 Mixes for soups and broths:

Concentrated soup to be reconstituted with water and/or milk, with or without addition of other optional ingredients (e.g. vegetables, meat, noodles). Examples include: bouillon powders and cubes; powdered and condensed soups (e.g. *mentsuyu*); and stock cubes and powders.

12.6 Sauces and like products:

Includes ready-to-eat sauces, gravies and dressings, and mixes to be reconstituted before consumption. The ready-to eat products are divided into sub-categories for emulsified (12.6.1) and non-emulsified (12.6.2) products, whereas the sub-category for the mixes (12.6.3) encompasses both emulsified and non-emulsified sauce mixes.

12.6.1 Emulsified sauces and dips (e.g. mayonnaise, salad dressing, onion dips):

Sauces, gravies, dressings based and dips, at least in part, on a fat- or oil-in water emulsion. Examples include: salad dressing (e.g. French, Italian, Greek, ranch style), fat-based sandwich spreads (e.g. mayonnaise with mustard), salad cream, and fatty sauces and snack dips (e.g. bacon and cheddar dip, onion dip).

12.6.2 Non-emulsified sauces (e.g. ketchup, cheese sauce, cream sauce, brown gravy):

Include water-, coconut milk-, and milk-based sauces, gravies and dressings. Examples include: barbecue sauce, tomato ketchup, cheese sauce, Worcestershire sauce, Oriental thick Worcestershire sauce (*tonkatsu sauce*), chilli sauce, sweet and sour dipping sauce, and white (cream-based) sauce (sauce consisting primarily of milk or cream, with little added fat (e.g. butter) and flour, with or without seasoning or spices).

12.6.3 Mixes for sauces and gravies:

Concentrated product, usually in powdered form, to be mixed with water, milk, oil or other liquid to prepare a finished sauce or gravy. Examples include mixes for cheese sauce, hollandaise sauce, and salad dressing (e.g. Italian or ranch dressing).

12.6.4 Clear sauces (e.g. fish sauce):

Includes thin, non-emulsified clear sauces that may be water-based. These sauces may be used as condiments or ingredients rather than as finished gravy (for use e.g. on roast beef). Examples include: oyster sauce, and Thai fish sauce (*nam pla*).

⁶⁹ *Food Chemistry*, H.-D. Belitz & W. Grosch, Springer-Verlag, Heidelberg, 1987, pp. 719-720.

⁷⁰ *Food Chemistry*, H.-D. Belitz & W. Grosch, Springer-Verlag, Heidelberg, 1987, p. 718.

12.7 Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3:

Includes prepared salads, milk-based sandwich spreads, non-standardized mayonnaise-like sandwich spreads, and dressing for coleslaw (cabbage salad).

12.8 Yeast and like products:

Includes baker's yeast and leaven used in the manufacture of baked goods. Includes the Oriental products *koji* (rice or wheat malted with *A. oryzae*) used in the production of alcoholic beverages.

12.9 Soybean-based seasonings and condiments:

Includes products that are derived from soybeans and other ingredients intended for use as seasonings and condiments, such as fermented soybean paste and soybean sauces.

12.9.1 Fermented soybean paste (e.g. miso):

The product is made of soybeans, salt, water and other ingredients, using the process of fermentation. The product includes *dou jiang* (China), *doenjang* (Republic of Korea), or *miso* (Japan), which may be used in the preparation of soups or dressings, or as a seasoning.^{52,71}

12.9.2 Soybean sauce:

A liquid seasoning obtained by fermentation of soybeans, non-fermentation (e.g. hydrolysis) of soybeans, or by hydrolysis of vegetable protein.

12.9.2.1 Fermented soybean sauce:

A clear, non-emulsified sauce made of soybeans, cereal, salt and water by the fermentation process.

12.9.2.2 Non-fermented soybean sauces:

Non-fermented soybean sauce, which is also known as non-brewed soybean sauce, may be produced from vegetable proteins, such as defatted soybeans that are acid-hydrolyzed (e.g. with hydrochloric acid), neutralized (e.g. with sodium carbonate), and filtered.⁷²

12.9.2.3 Other soybean sauce:

Non-emulsified sauce made from fermented soybean sauce and/or non-fermented soybean sauce, with or without sugar, with or without caramelization process.

12.10 Protein products other than from soybeans:

Includes, for example, milk protein, cereal protein and vegetable protein analogues or substitutes for standard products, such as meat, fish or milk. Examples include: vegetable protein analogues, *fu* (a mixture of gluten (vegetable protein) and flour that is sold dried (baked) or raw, and is used as an ingredient, e.g. in miso soup) and proteinaceous meat and fish substitutes.

13.0 Foodstuffs intended for particular nutritional uses:

Foods for special dietary use are specially processed or formulated to satisfy particular dietary requirements that exist because of a particular physical or physiological condition and/or specific disease and disorder. The composition of these foods must differ significantly from the composition of ordinary foods of comparable nature, if such foods exist.⁷³ Dietetic foods other than those in 13.0 are included in the categories for their standard counterparts.⁷⁴

13.1 Infant formulae, follow-up formulae, and formulae for special medical purposes for infants:

Foods that are intended for infants and for young children as defined in the sub-categories 13.1.1, 13.1.2, and 13.1.3.

⁷¹ Asian Foods: Science and Technology, C.Y.W. Ang, K.S. Liu, & Y.-W. Huang, Eds., Chapter 6: Oriental Soy Foods, K.S. Liu, Technomic Publishing Co., Lancaster PA 1999, pp. 173-181

⁷² Asian Foods: Science and Technology, C.Y.W. Ang, K.S. Liu, & Y.-W. Huang, Eds., Chapter 6: Oriental Soy Foods, K.S. Liu, Technomic Publishing Co., Lancaster PA 1999, pp. 181-187.

⁷³ *General Standard for Labelling of and Claims for Prepackaged Foods for Special Dietary Use* (CODEX STAN 146-1985).

⁷⁴ For example, diet soda is found in 14.1.4.1, and low-joule jam is found in 04.1.2.5.

13.1.1 Infant formulae:

A human milk substitute for infants (aged no more than 12 months) that is specifically formulated to provide the sole source of nutrition during the first months of life up to the introduction of appropriate complementary feeding. Product is in a liquid form, either as a ready-to-eat product, or is reconstituted from a powder. Products, other than those under food category 13.1.3, may be, hydrolyzed protein and/or amino acid-based, or milk-based.

13.1.2 Follow-up formulae:

Food intended for use as a liquid part of the complementary feeding of infants (aged at least 6 months) and for young children (aged 1-3 years).⁷⁵ They may be ready-to-eat or in a powdered form to be reconstituted with water. Products, other than those under food category 13.1.3, may be soy based hydrolyzed protein and/or amino acid-based, or milk-based.

13.1.3 Formulae for special medical purposes intended for infants:

Foods for special dietary use that are specially processed or formulated and presented for the dietary management of infants and may be used only under medical supervision. They are intended for the exclusive or partial feeding of infants with limited or impaired capacity to take, digest, absorb or metabolize ordinary infant formulae or certain nutrients contained therein, or who have other special medically-determined nutrient requirement, whose dietary management cannot be achieved only by modification of the normal diet, by other foods for special dietary uses, or by a combination of the two.⁷⁶

13.2 Complementary foods for infants and young children:

Foods that are intended for infants 6 months of age and older, and for progressive adaptation of infants and children to ordinary food. Products may be ready-to-eat or in powder form to be reconstituted with water, milk, or other suitable liquid.⁷⁷ These foods exclude infant formulae (13.1.1), follow-up formulae (13.1.2), and formulae for special medical purposes (13.1.3).⁷⁸ Examples include: cereal-, fruit-, vegetable-, and meat-based "baby foods" for infants, "toddler foods," and "junior foods"; lactea flour, biscuits and rusks for children.

13.3 Dietetic foods intended for special medical purposes (excluding products of food category 13.1):

Foods for special dietary use that are specially processed or formulated and presented for the dietary management of patients and may be used only under medical supervision. They are intended for the exclusive or partial feeding of patients with limited or impaired capacity to take, digest, absorb or metabolize ordinary foods or certain nutrients contained therein, or who have other special medically-determined nutrient requirement, whose dietary management cannot be achieved only by modification of the normal diet, by other foods for special dietary uses, or by a combination of the two.⁷⁶

13.4 Dietetic formulae for slimming purposes and weight reduction:

Formula foods that when presented as "ready-to-eat" or when prepared in conformity with the directions for use are specifically presented as replacements for all or part of the total daily diet.⁷⁹ Includes products with reduced caloric content such as those that are low in sugar and/or fat, sugar- or fat-free, or contain sugar- and/or fat-substitutes.

13.5 Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6:

Products of high nutritional content, in liquid or solid form (e.g. protein bars), to be used by individuals as part of a balanced diet to provide supplemental nutrition. Products are not intended to be used for purposes of weight loss or as part of a medical regimen.

13.6 Food supplements:

Includes vitamin and mineral supplements in unit dose forms such as capsules, tablets, powders, solutions, etc. where national jurisdictions regulate these products as food.⁸⁰

⁷⁵ *Standard for Follow-Up Formula* (CODEX STAN 156-1987).

⁷⁶ *Standard for the Labelling of and Claims for Foods for Special Medical Purposes* (CODEX STAN 180-1991).

⁷⁷ *Standard for Processed Cereal-Based Foods for Infants and Children* (CODEX STAN 74-1981).

⁷⁸ *Standard for Canned Baby Foods* (CODEX STAN 073-1981).

⁷⁹ *Standard for Formula Foods for Use in Weight Control Diets* (CODEX STAN 181-1991) and *Standard for Formula Foods for use in Very Low Energy Diets for Weight Reduction* (CODEX STAN 203-1995).

⁸⁰ *Guidelines for Vitamin and Mineral Food Supplements* (CAC/GL 55-2005).

14.0 Beverages, excluding dairy products:

This major category is divided into the broad categories of non-alcoholic (14.1) and alcoholic (14.2) beverages. Dairy-based beverages are included in 01.1.4.

14.1 Non-alcoholic ("soft") beverages:

This broad category includes waters and carbonated waters (14.1.1), fruit and vegetable juices (14.1.2), fruit and vegetable nectars (14.1.3), water-based flavoured carbonated and non-carbonated drinks (14.1.4), and water-based brewed or steeped beverages such as coffee and tea (14.1.5).

14.1.1 Waters:

Includes natural waters (14.1.1.1) and other bottled waters (14.1.1.2), each of which may be non-carbonated or carbonated.

14.1.1.1 Natural mineral waters and source waters:

Waters obtained directly at the source and packaged close to the source; are characterized by the presence of certain mineral salts in relative proportions and trace elements or other constituents. Natural mineral water may be naturally carbonated (with carbon dioxide from the source), carbonated (with added carbon dioxide of another origin), decarbonated (with less carbon dioxide than present in the water at the source so it does not spontaneously give off carbon dioxide under conditions of standard temperature and pressure), or fortified (with carbon dioxide from the source), and non-carbonated (contains no free carbon dioxide).⁸¹

14.1.1.2 Table waters and soda waters:

Includes waters other than natural source waters that may be carbonated by addition of carbon dioxide and may be processed by filtration, disinfection, or other suitable means. These waters may contain added mineral salts. Carbonated and non-carbonated waters containing flavours are found in category 14.1.4. Examples are table water, bottled water with or without added minerals, purified water, seltzer water, club soda, and sparkling water.

14.1.2 Fruit and vegetable juices:

This category applies only to fruit and vegetable juices. Beverages based on fruit and vegetable juices are found in food category 14.1.4.2. Fruit-vegetable juice blends have separate classifications for each component (i.e. fruit juice (14.1.2.1) and vegetable juice (14.1.2.2)).

14.1.2.1 Fruit juice:

Fruit juice is the unfermented but fermentable liquid obtained from the edible part of sound, appropriately mature and fresh fruit or of fruit maintained in sound condition by suitable means. The juice is prepared by suitable processes, which maintain the essential physical, chemical, organoleptical and nutritional characteristics of the juices of the fruit from which it comes. The juice may be cloudy or clear, and may have restored (to the normal level attained in the same kind of fruit) aromatic substances and volatile flavour components, all of which must be obtained by suitable physical means, and all of which must have been recovered from the same kind of fruit. Pulp and cells obtained by suitable physical means from the same kind of fruit may be added. A single juice is obtained from one kind of fruit. A mixed juice is obtained by blending two or more juices or juices and purees, from different kinds of fruit. Fruit juice may be obtained, e.g. by directly expressing the juice by mechanical extraction processes, by reconstituting concentrated fruit juice (food category 14.1.2.3) with water, or in limited situations by water extraction of the whole fruit (e.g. prune juice from dried prunes).⁸² Examples include: orange juice, apple juice, black currant juice, lemon juice, orange-mango juice and coconut water.

14.1.2.2 Vegetable juice:

Vegetable juice is the liquid unfermented but fermentable product intended for direct consumption obtained by mechanical expression, crushing, grinding, and/or sieving of one or more sound fresh vegetables or vegetables preserved exclusively by physical means. The juice may be clear, turbid, or pulpy. It may have been concentrated and reconstituted with water. Products may be based on a single vegetable (e.g. carrot) or blends of vegetables (e.g. carrots, celery).

⁸¹ *Standard for Natural Mineral Waters* (CODEX STAN 108-1981).

⁸² *General Standard for Fruit Juices and Nectars* (CODEX STAN 247-2005).

14.1.2.3 Concentrates for fruit juice:

Concentrated fruit juice is the product that complies with the definition given in food category 14.1.2.1. It is prepared by the physical removal of water from fruit juice in an amount to increase the Brix level to a value at least 50% greater than that established for reconstituted juice from the same fruit. In the production of juice that is to be concentrated, suitable processes are used, and may be combined, with simultaneous diffusion of the pulp cells or fruit pulp by water, provided that the water-extracted soluble fruit solids are added in-line to the primary juice, before the concentration procedure. Fruit juice concentrates may have restored (to the normal level attained in the same kind of fruit) aromatic substances and volatile flavour components, all of which must be obtained by suitable physical means, and all of which must be recovered from the same kind of fruit. Pulp and cells obtained by suitable physical means from the same kind of fruit may be added.⁸² Sold in liquid, syrup and frozen forms for the preparation of a ready-to-drink juice by addition of water. Examples include: frozen orange juice concentrate, and lemon juice concentrate.

14.1.2.4 Concentrates for vegetable juice:

Prepared by the physical removal of water from vegetable juice. Sold in liquid, syrup and frozen forms for the preparation of a ready-to-drink juice by addition of water. Includes carrot juice concentrate.

14.1.3 Fruit and vegetable nectars:

Fruit and vegetable nectars are beverages produced from purees, juices, or concentrates of either, blended with water and sugar, honey, syrups, and/or sweeteners.⁸² Fruit-vegetable nectar blends are reported under their components (i.e. fruit nectar (14.1.3.1) and vegetable nectar (14.1.3.2)).

14.1.3.1 Fruit nectar:

Fruit nectar is the unfermented but fermentable product obtained by adding water with or without the addition of sugar, honey, syrups, and/or sweeteners to fruit juice, concentrated fruit juice, fruit purees or concentrated fruit purees, or a mixture of those products. Aromatic substances, volatile flavour components, pulp and cells, all of which must have been recovered from the same kind of fruit and obtained by suitable physical means, may be added. Products may be based on a single fruit or on fruit blends.⁸² Examples include: pear nectar and peach nectar.

14.1.3.2 Vegetable nectar:

Product obtained by adding water with or without the addition of sugar, honey, syrups, and/or sweeteners to vegetable juice or concentrated vegetable juice, or a mixture of those products. Products may be based on a single vegetable or on a blend of vegetables.

14.1.3.3 Concentrates for fruit nectar:

Prepared by the physical removal of water from fruit nectar or its starting materials.⁸² Sold in liquid, syrup and frozen forms for the preparation of a ready-to-drink nectar by addition of water. Examples: pear nectar concentrate and peach nectar concentrate.

14.1.3.4 Concentrates for vegetable nectar:

Prepared by the physical removal of water from vegetable nectar. Sold in liquid, syrup and frozen forms for the preparation of ready-to-drink nectars by addition of water.

14.1.4 Water-based flavoured drinks, including “sport,” “energy,” or “electrolyte” drinks and particulated drinks:

Includes all carbonated and non-carbonated varieties and concentrates. Includes products based on fruit and vegetable juices.⁸³ Also, includes coffee-, tea- and herbal-based drinks.

14.1.4.1 Carbonated water-based flavoured drinks:

Includes water-based flavoured drinks with added carbon dioxide with nutritive, non-nutritive and/or intense sweeteners and other permitted food additives. Includes *gaseosa* (water-based drinks with added carbon dioxide, sweetener, and flavour), and sodas such as colas, pepper-types, root beer, lemon-lime, and citrus types, both diet/light and regular types. These beverages may be clear, cloudy, or may contain particulated matter (e.g. fruit pieces). Includes so-called “energy” drinks that are carbonated and contain high levels of nutrients and other ingredients (e.g. caffeine, taurine, carnitine).

⁸³ Fruit and vegetable juices *per se* are found in 14.1.2.1 and 14.1.2.2, respectively.

14.1.4.2 Non-carbonated water-based flavoured drinks, including punches and ades:

Include water-based flavoured drinks without added carbon dioxide, fruit and vegetable juice-based drinks (e.g. almond, aniseed, coconut-based drinks, and ginseng drink), fruit flavoured ades (e.g. lemonade, orangeade), squashes (citrus-based soft drinks), capile groselha, lactic acid beverage, ready-to-drink coffee and tea drinks with or without milk or milk solids, and herbal-based drinks (e.g. iced tea, fruit-flavoured iced tea, chilled canned cappuccino drinks) and “sports” drinks containing electrolytes. These beverages may be clear or contain particulated matter (e.g. fruit pieces), and may be unsweetened or sweetened with sugar or a non-nutritive high-intensity sweetener. Includes so-called “energy” drinks that are non-carbonated and contain high levels of nutrients and other ingredients (e.g. caffeine, taurine, carnitine).

14.1.4.3 Concentrates (liquid or solid) for water-based flavoured drinks:

Include powder, syrup, liquid and frozen concentrates for the preparation of carbonated or non-carbonated water-based non-alcoholic beverages by addition of water or carbonated water. Examples include: fountain syrups (e.g. cola syrup), fruit syrups for soft drinks, frozen or powdered concentrate for lemonade and iced tea mixes.

14.1.5 Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa:

Includes the ready-to-drink products (e.g. canned), and their mixes and concentrates. Examples include: chicory-based hot beverages (postum), rice tea, mate tea, and mixes for hot coffee and tea beverages (e.g. instant coffee, powder for hot cappuccino beverages). Treated coffee beans for the manufacture of coffee products are also included. Ready-to-drink cocoa is included in category 01.1.4, and cocoa mixes in 05.1.1.

14.2 Alcoholic beverages, including alcohol-free and low-alcoholic counterparts:

The alcohol-free and low-alcoholic counterparts are included in the same category as the alcoholic beverage.

14.2.1 Beer and malt beverages:

Alcoholic beverages brewed from germinated barley (malt), hops, yeast, and water. Examples include: ale, brown beer, weiss beer, pilsner, lager beer, oud bruin beer, Obergariges Einfachbier, light beer, table beer, malt liquor, porter, stout, and barleywine.⁸⁴

14.2.2 Cider and perry:

Fruit wines made from apples (cider) and pears (perry). Also includes cider bouche.⁸⁵

14.2.3 Grape wines:

Alcoholic beverage obtained exclusively from the partial or complete alcoholic fermentation of fresh grapes, whether crushed or not, or of grape must (juice).⁸⁶

14.2.3.1 Still grape wine:

Grape wine (white, red, rosé, or blush, dry or sweet) that may contain up to a maximum 0.4g/100 ml (4000 mg/kg) carbon dioxide at 20 °C.

14.2.3.2 Sparkling and semi-sparkling grape wines:

Grape wines in which carbonation is produced during the fermentation process, either by bottle fermentation or closed tank fermentation. Also includes carbonated wine whose carbon dioxide is partially or totally of exogenous origin. Examples include: spumante, and “cold duck” wine.⁸⁵

14.2.3.3 Fortified grape wine, grape liquor wine, and sweet grape wine:

Grape wines produced either by: (i) the fermentation of grape must (juice) of high sugar concentration; or (ii) by the blending of concentrated grape juice with wine; or (iii) the mixture of fermented must with alcohol. Examples include: grape dessert wine.⁸⁵

14.2.4 Wines (other than grape):

Includes wines made from fruit other than grapes, apples and pears,⁸⁷ and from other agricultural products, including grain (e.g. rice). These wines may be still or sparkling. Examples include: rice wine (*sake*), and sparkling and still fruit wines.

⁸⁴ *Food Chemistry*, H.-D. Belitz & W. Grosch, Springer-Verlag, Heidelberg, 1987, p. 644.

⁸⁵ *Food Chemistry*, H.-D. Belitz & W. Grosch, Springer-Verlag, Heidelberg, 1987, pp. 669-679.

⁸⁶ *Food Chemistry*, H.-D. Belitz & W. Grosch, Springer-Verlag, Heidelberg, 1987, p. 654. OIV – International Code of Oenological Practices

⁸⁷ Grape wines are included in 14.2.3; and apple wine (cider) and pear wine (perry) are included in 14.2.2.

14.2.5 Mead:

Alcoholic liquor made from fermented honey, malt and spices, or just of honey. Includes honey wine.⁸⁵

14.2.6 Distilled spirituous beverages containing more than 15% alcohol:

Includes all distilled spirituous beverages derived from grain (e.g. corn, barley, rye, wheat), tubers (e.g. potato), fruit (e.g. grapes, berries) or sugar cane that contain greater than 15% alcohol. Examples include: aperitifs, brandy (distilled wine), cordials, liqueurs (including emulsified liqueurs), bagaceira belha (grappa from Portugal; bagaceira is a drink distilled from *bagaçõ* (pressed skins, seeds and stalks of the grapes)), eau de vie (a brandy), gin, grappa (Italian brandy distilled from the residues of pressed wine), marc (brandy distilled from grape or apple residue), korn (grain spirit (*schnapps*) of Germany, usually derived from rye (*Roggen*), sometimes from wheat (*Weizen*) or both (*Getreide*); also labelled as *Kornbrantt* or *Kornbranttwein*)⁸⁸, mistela (also *mistelle* (France) and *jeropico* (South Africa); unfermented grape juice fortified with grape alcohol), ouzo (Greek spirit drink flavoured with aniseed), rum, tsikoudia (grape marc spirit from Crete), tsipouro (grape marc spirit from certain regions in Greece), wienbrand (style of grape brandy devised by Hugo Asbach, Rudesheim, Germany; literally, "burnt wine")⁸⁸, *cachaça* (Brazilian liquor made from fermented distilled sugar cane juice)⁸⁹, tequila, whiskey, and vodka.^{85,90,91}

14.2.7 Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low-alcoholic refreshers):

Includes all non-standardized alcoholic beverage products. Although most of these products contain less than 15% alcohol, some traditional non-standardized aromatized products may contain up to 24% alcohol. Examples include aromatized wine, cider and perry; aperitif wines; americano; batidas (drinks made from *cachaça*, fruit juice or coconut milk and, optionally, sweetened condensed milk)⁸⁹; bitter soda and bitter vino; clarea (also claré or clary; a mixture of honey, white wine and spices; it is closely related to *hippocras*, which is made with red wine); jurubeba alcoholic drinks (beverage alcohol product made from the *Solanum paniculatum* plant indigenous to the north of Brazil and other parts of South America); negus (sangria; a hot drink made with port wine, sugar, lemon and spice); sod, soft, and sodet; vermouth; zurra (in Southern Spain, a sangria made with peaches or nectarines; also the Spanish term for a spiced wine made of cold or warm wine, sugar, lemon, oranges or spices); *amazake* (a sweet low-alcoholic beverages (<1% alcohol) made from rice by *koji*; *mirin* (a sweet alcoholic beverage (<10% alcohol) made from a mixture of *shochuu* (a spirituous beverage), rice and *koji*); "malternatives," and prepared cocktails (mixtures of liquors, liqueurs, wines, essences, fruit and plant extracts, etc. marketed as ready-to-drink products or mixes). Cooler-type beverages are composed of beer, malt beverage, wine or spirituous beverage, fruit juice(s), and soda water (if carbonated).^{85,90,92}

15.0 Ready-to-eat savouries:

Includes all types of savoury snack foods.

15.1 Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes):

Includes all savoury snacks, with or without added flavourings, but excludes unsweetened crackers (category 07.1.2). Examples include potato chips, popcorn, pretzels, rice crackers (*senbei*), flavoured crackers (e.g. cheese-flavoured crackers), *bhujia* (*namkeen*; snack made of a mixture of flours, maize, potatoes, salt, dried fruit, peanuts, spices, colours, flavours, and antioxidants), and *papads* (prepared from soaked rice flour or from black gram or cow pea flour, mixed with salt and spices, and formed into balls or flat cakes).

15.2 Processed nuts, including coated nuts and nut mixtures (with e.g. dried fruit):

Includes all types of whole nuts processed by, e.g. dry-roasting, roasting, marinating or boiling, either in-shell or shelled, salted or unsalted. Yoghurt-, cereal-, and honey-covered nuts, and dried fruit-nut-and-cereal snacks (e.g. "trail mixes") are classified here. Chocolate-covered nuts are classified in 05.1.4, and nuts covered in imitation chocolate are included in 05.1.5.

⁸⁸ *The Wordsworth Dictionary of Drink*, N. Halley, Wordsworth Ltd., Hertfordshire, England, 1996.

⁸⁹ *Insight Guide: Rio de Janeiro*, APA Publications, GmbH & Co., Verlag KG, Singapore, 2000, p. 241.

⁹⁰ *OIV Lexique de la Vigne*.

⁹¹ See also: Glossary of Portuguese Terms at: www.bar-do-binho.com/help.htm

⁹² *Alexis Lichinne's New Encyclopedia of Wine and Spirits*, 3rd Ed. See also: rain-tree.com/jurubeba.htm, www.florilegium.org/files/BEVERAGES/Clarea-d-Agua-art.html, and wine.about.com/food/wine/library/types/bl_sangria.htm.

15.3 Snacks - fish based:

This describes savoury crackers with fish, fish products or fish flavouring. Dried fish *per se* that may be consumed as a snack is assigned to food category 09.2.5, and dried meat snacks (e.g. beef jerky, pemmican) are assigned to food category 08.3.1.2.

16.0 Prepared foods:

These foods are not included in the other food categories (01-15) and should be considered on a case-by-case basis. Prepared foods are mixtures of multiple components (e.g. meat, sauce, grain, cheese, vegetables); the components are included in other food categories. Prepared foods require minimal preparation by the consumer (e.g. heating, thawing, rehydrating). Provisions for additives will be listed in this food category in the GSFA only if the additive is needed: (i) solely to have a technological function in the prepared food as sold to the consumer; or (ii) at a use level that has an intentional technological function in the prepared food that exceeds the use level that can be accounted for by carry-over from the individual components.

ANNEX C

**CROSS-REFERENCE OF CODEX STANDARDISED FOODS WITH THE FOOD CATEGORY SYSTEM
USED FOR THE ELABORATION OF THE GSFA**

Annex C sorted by Codex Standard Number

Standard No	Codex Standard Title	Food Cat. No.
3-1981	Canned Salmon	09.4
12-1981	Honey	11.5
13-1981	Preserved Tomatoes	04.2.2.4
17-1981	Canned Applesauce	04.1.2.4
19-1981	Edible Fats and Oils Not Covered by Individual Standards (General Standard)	02.1
33-1981	Olive Oil, Virgin and Refined, and Refined Olive Pomace Oil, Olive Oils and Olive Pomace Oils	02.1.2
36-1981	Quick-Frozen Finfish, Uneviscerated and Eviscerated	09.2.1
37-1981	Canned Shrimps or Prawns	09.4
38-1981	Edible Fungi and Fungi Products (concentrate, dried concentrate or extract)	04.2.2.6
38-1981	Edible Fungi and Fungi Products (edible fungi)	04.2.1.1
38-1981	Edible Fungi and Fungi Products (fermented)	04.2.2.7
38-1981	Edible Fungi and Fungi Products (fungus products)	04.2.2
38-1981	Edible Fungi and Fungi Products (incl. freeze dried, fungus grits and fungus powder)	04.2.2.2
38-1981	Edible Fungi and Fungi Products (quick frozen)	04.2.2.1
38-1981	Edible Fungi and Fungi Products (salted, pickled or in vegetable oil)	04.2.2.3
38-1981	Edible Fungi and Fungi Products (sterilized)	04.2.2.4
39-1981	Dried Edible Fungi	04.2.2.2
40R-1981	Fresh Fungus "Chanterelle" (Regional Standard)	04.2.1.1
52-1981	Quick Frozen Strawberries	04.1.2.1
53-1981	Special Dietary Foods with Low-Sodium Content, including salt substitutes (salt substitutes)	12.1.2
53-1981	Special Dietary Foods with Low-Sodium Content, including salt substitutes (special dietary foods with low sodium content)	13.0
57-1981	Processed Tomato Concentrates (canned tomato paste)	04.2.2.4
57-1981	Processed Tomato Concentrates (tomato puree)	04.2.2.5
57-1981	Processed Tomato Concentrates (tomato paste)	04.2.2.6
60-1981	Canned Raspberries	04.1.2.4
62-1987	Canned Strawberries	04.1.2.4
66-1981	Table Olives	04.2.2.3
67-1981	Raisins	04.1.2.2
69-1981	Quick Frozen Raspberries	04.1.2.1
70-1981	Canned Tuna and Bonito	09.4
72-1981	Infant Formula and Formula for Special Dietary Purposes Intended for Infants (infant formula)	13.1.1
72-1981	Infant formula and Formula for Special Dietary Purposes Intended for Infants (formula for special dietary purposes intended for infants)	13.1.3

Standard No	Codex Standard Title	Food Cat. No.
73-1981	Canned Baby Foods	13.2
74-1981	Processed Cereal-Based Foods for Infants and Children	13.2
75-1981	Quick Frozen Peaches	04.1.2.1
76-1981	Quick Frozen Bilberries	04.1.2.1
78-1981	Canned Fruit Cocktail	04.1.2.4
86-1981	Cocoa Butters	05.1.3
87-1981	Chocolate and Chocolate Products	05.1.4
88-1981	Canned Corned Beef	08.3.2
89-1981	Luncheon Meat	08.3.2
90-1981	Canned Crab Meat	09.4
92-1981	Quick Frozen Shrimps or Prawns	09.2.1
94-1981	Canned Sardines and Sardine-Type Products	09.4
95-1981	Quick Frozen Lobsters	09.2.1
96-1981	Cooked Cured Ham	08.2.2
97-1981	Cooked Cured Pork Shoulder	08.2.2
98-1981	Cooked Cured Chopped Meat	08.3.2
99-1981	Canned Tropical Fruit Salad	04.1.2.4
103-1981	Quick Frozen Blueberries	04.1.2.1
105-1981	Cocoa Powders (Cocoa) and Dry Mixtures of Cocoa and Sugar	05.1.1
108-1981	Natural Mineral Waters	14.1.1.1
115-1981	Pickled Cucumbers (Cucumber Pickles)	04.2.2.3
117-1981	Bouillon and Consommés	12.5
118-1981	Foods for Special Dietary Use for Persons Intolerant to Gluten	13.3
119-1981	Canned Finfish	09.4
130-1981	Dried Apricots	04.1.2.2
131-1981	Unshelled Pistachio Nuts	04.2.1.1
141-1983	Cocoa (Cacao) Mass (Cocoa/Chocolate Liquor) and Cocoa Cake	05.1.1
143-1985	Dates (coated)	04.1.1.2
143-1985	Dates (fresh)	04.1.1.1
145-1985	Canned Chestnuts and Canned Chestnut Puree	04.2.2.4
150-1985	Food Grade Salt	12.1.1
151-1985	Gari	04.2.2.7
152-1985	Wheat Flour	06.2.1
153-1985	Maize (Corn)	06.1
154-1985	Whole Maize (Corn) Meal	06.2.1
155-1985	Degermed Maize (Corn) Meal and Maize (Corn) Grits	06.2.1
156-1987	Follow-Up Formula	13.1.2
160-1987	Mango Chutney	04.1.2.6
163-1987	Wheat Protein Products, Including Wheat Gluten	12.10
165-1989	Quick Frozen Blocks of Fish Fillets, Minced Fish Flesh and Mixtures of Fillets and Minced Fish Flesh	09.2.1

Standard No	Codex Standard Title	Food Cat. No.
166-1989	Quick Frozen Fish Sticks (Fish Fingers), Fish Portions and Fish Fillets – Breaded and in Batter	09.2.2
167-1989	Salted Fish and Dried Salted Fish of the Gadidae Family of Fishes	09.2.5
169-1989	Whole and Decorticated Pearl Millet Grains	06.1
170-1989	Pearl Millet Flour	06.2.1
171-1989	Certain Pulses	04.2.1.1
172-1989	Sorghum Grains	06.1
173-1989	Sorghum Flour	06.2.1
174-1989	Vegetable Protein Products	12.10
175-1989	Soy Protein Products	06.8.8
176-1989	Edible Cassava Flour	06.2.1
177-1991	Grated Desiccated Coconut	04.1.2.2
178-1991	Durum Wheat Semolina and Durum Wheat Flour	06.2.1
181-1991	Formula Foods for Use in Weight Control Diets	13.4
182-1993	Pineapple	04.1.1.1
183-1993	Papaya	04.1.1.1
184-1993	Mango	04.1.1.1
185-1993	Nopal	04.2.1.1
186-1993	Prickly pear	04.2.1.1
187-1993	Carambola	04.1.1.1
188-1993	Baby Corn	04.2.1.1
189-1993	Dried Shark Fins	09.2.5
190-1995	Quick Frozen Fish Fillets	09.2.1
191-1995	Quick Frozen Raw Squid	09.2.1
196-1995	Litchi	04.1.1.1
197-1995	Avocado	04.2.1.1
198-1995	Rice	06.1
199-1995	Wheat and Durum Wheat	06.1
200-1995	Peanuts	04.2.1.1
201-1995	Oats	06.1
202-1995	Couscous	06.1
203-1995	Formula Foods for Use in Very Low Energy Diets for Weight Reduction	13.4
204-1997	Mangosteens	04.1.1.1
205-1997	Bananas	04.1.1.1
207-1999	Milk Powders and Cream Powders	01.5.1
208-1999	Cheeses in Brine	01.6.2.1
210-1999	Named Vegetable Oils	02.1.2
211-1999	Named Animal Fats	02.1.3
212-1999	Sugars (glucose syrup, dried glucose, soft white sugar, brown sugar, raw cane sugar)	11.1.3
212-1999	Sugars (lactose)	11.1.4
212-1999	Sugars (plantation or white mill sugar)	11.1.5

Standard No	Codex Standard Title	Food Cat. No.
212-1999	Sugars (powdered sugar and powdered dextrose)	11.1.2
212-1999	Sugars (white sugar, dextrose anhydrous, dextrose monohydrate, fructose)	11.1.1
213-1999	Limes	04.1.1.1
214-1999	Pumelos (<i>Citrus grandi</i>)	04.1.1.1
215-1999	Guavas	04.1.1.1
216-1999	Chayotes	04.1.1.1
217-1999	Mexican Limes	04.1.1.1
218-1999	Ginger	04.2.1.1
219-1999	Grapefruits (<i>Citrus paradisi</i>)	04.1.1.1
220-1999	Longans	04.1.1.1
221-2001	Unripened Cheese, including Fresh Cheese	01.6.1
222-2001	Crackers from Marine and Freshwater Fish, Crustaceans and Molluscan Shellfish	09.2.5
223-2001	Kimchi	04.2.2.7
224-2001	Tannia	04.2.1.1
225-2001	Asparagus	04.2.1.1
226-2001	Cape Gooseberry	04.1.1.1
227-2001	Bottled/Packaged Drinking Waters (other than natural mineral water)	14.1.1.2
236-2003	Boiled Dried Salted Anchovies	09.2.5
237-2003	Pitahayas	04.1.1.1
238-2003	Sweet Cassava	04.2.1.1
240-2003	Aqueous Coconut Products (coconut milk and coconut cream)	04.1.2.8
241-2003	Canned Bamboo Shoots	04.2.2.4
242-2003	Canned Stone Fruits	04.1.2.4
243-2003	Fermented Milks (flavoured, heat treated and non-heat treated)	01.7
243-2003	Fermented Milks (drinks based on fermented milk, flavoured, heat treated or not heat treated)	01.1.4
243-2003	Fermented Milks (drinks based on fermented milk, (plain))	01.2.1
243-2003	Fermented Milks (drinks based on fermented milk (plain, not heat treated))	01.2.1.1
243-2003	Fermented Milks (drinks based on fermented milk (plain, heat treated))	01.2.1.2
244-2004	Salted Atlantic Herring and Salted Sprat	09.2.5
245-2004	Oranges	04.1.1.1
246-2005	Rambutan	04.1.1.1
247-2005	Fruit Juices and Nectars (fruit juices)	14.1.2.1
247-2005	Fruit Juices and Nectars (concentrates for fruit juice)	14.1.2.3
247-2005	Fruit Juices and Nectars (fruit nectars)	14.1.3.1
247-2005	Fruit Juices and Nectars (concentrates for fruit nectars)	14.1.3.3
249-2006	Instant Noodles	06.4.3
250-2006	Blend of Evaporated Skimmed Milk and Vegetable Fat	01.3.2
251-2006	Blend of Skimmed Milk and Vegetable Fat in Powdered Form	01.5.2

Standard No	Codex Standard Title	Food Cat. No.
252-2006	Blend of Sweetened Condensed Milk and Vegetable Fat	01.3.2
253-2006	Dairy Fat Spreads	02.2.2
254-2007	Certain Canned Citrus Fruits	04.1.2.4
255-2007	Table Grapes	04.1.1.1
256-2007	Fat Spreads and Blended Spreads	02.2.2
257R-2007	Canned Humus with Tehena (Regional Standard)	04.2.2.4
258R-2007	Canned Foul Medames (Regional Standard)	04.2.2.4
259R-2007	Tehena (Regional Standard)	04.2.2.6
260-2007	Pickled Fruits and Vegetables (pickled fruits)	04.1.2.3
260-2007	Pickled Fruits and Vegetables (fermented fruits)	04.1.2.10
260-2007	Pickled Fruits and Vegetables (pickled vegetables)	04.2.2.3
260-2007	Pickled Fruits and Vegetables (fermented vegetables)	04.2.2.7
262-2007	Mozzarella	01.6.1
263-1966	Cheddar	01.6.2.1
264-1966	Danbo	01.6.2.1
265-1966	Edam	01.6.2.1
266-1966	Gouda	01.6.2.1
267-1966	Havarti	01.6.2.1
268-1966	Samsøe	01.6.2.1
269-1967	Emmental	01.6.2.1
270-1968	Tilsiter	01.6.2.1
271-1968	Saint Paulin	01.6.2.1
272-1968	Provolone	01.6.2.1
273-1968	Cottage Cheese	01.6.1
274-1969	Coulommiers	01.6.2.1
275-1973	Cream Cheese (Rahmfrischkäse)	01.6.1
276-1973	Camembert	01.6.2.1
277-1973	Brie	01.6.2.1
278-1978	Extra Hard Grating Cheese	01.6.2.1
279-1971	Butter	02.2.1
280-1973	Milkfat Products	02.1.1
281-1971	Evaporated milks	01.3.1
282-1971	Sweetened Condensed Milks	01.3.1
283-1978	Cheese (ripened, including mould ripened)	01.6.2.1
284-1971	Whey Cheeses (whey cheese)	01.6.3
284-1971	Whey Cheeses (whey protein cheese)	01.6.6
288-1976	Cream and Prepared Creams (fermented cream, acidified cream)	01.4.3
288-1976	Cream and Prepared Creams (reconstituted cream, recombined cream, prepackaged liquid cream)	01.4.1
288-1976	Cream and Prepared Creams (whipping cream, cream packaged under pressure, whipped cream)	01.4.2
289-1995	Whey Powders	01.8.2

Standard No	Codex Standard Title	Food Cat. No.
290-1995	Edible Casein Products	01.5.1
291-2010	Sturgeon Caviar	09.3.3
292-2008	Raw and Live Bivalve Molluscs (live)	09.1.2
292-2008	Raw and Live Bivalve Molluscs (raw, chilled shucked)	09.1.2
292-2008	Raw and Live Bivalve Molluscs (raw, frozen)	09.2.1
293-2008	Tomatoes	04.2.1.1
294R-2009	Gochujang (Regional Standard)	04.2.2.7
296-2009	Jams, Jellies and Marmalades	04.1.2.5
297-2009	Certain Canned Vegetables	04.2.2.4
298R-2009	Fermented Soybean Paste (Regional Standard)	12.9.1
299-2010	Apples	04.1.1.1
300-2010	Bitter Cassava	04.2.1.1
301R-2011	Edible Sago Flour (Regional Standard)	06.2.1
302-2011	Fish Sauce	12.6.4
303-2011	Tree Tomatoes	04.2.1.1
304R-2011	Culantro Coyote (Regional Standard)	04.2.1.1
305R-2011	Lucuma (Regional Standard)	04.1.1.1
306R-2011	Chilli Sauce (Regional Standard)	12.6.2
307-2011	Chilli Peppers	04.2.1.1
308R-2011	Harissa (Regional Standard)	04.2.2.6
309R-2011	Halwa Tehenia (Regional Standard)	05.2.2
310-2013	Pomegranate	04.1.1.1
311-2013	Smoke Fish, Smoke-Flavoured Fish and Smoke-Dried Fish	09.2.5
312-2013	Live Abalone and Raw Fresh Chilled or Frozen Abalone for Direct Consumption or for Further Processing (fresh)	09.1.2
312-2013	Live Abalone and Raw Fresh Chilled or Frozen Abalone for Direct Consumption or for Further Processing (frozen)	09.2.1
313R-2013	Tempe (Regional Standard)	06.8.6
314R-2013	Date Paste (Regional Standard)	04.1.2.8
315-2014	Fresh and Quick Frozen Raw Scallop Products (fresh)	09.1.2
315-2014	Fresh and Quick Frozen Raw Scallop Products (frozen)	09.2.1
316-2014	Passion Fruit	04.1.1.1
317-2014	Durian	04.1.1.1
318-2014	Okra	04.2.1.1
319-2015	Certain Canned Fruits	04.1.2.4
320-2015	Quick Frozen Vegetables	04.2.2.1
321-2015	Ginseng Products (Dried Ginseng, Dried Steamed Ginseng, Ginseng Extract in Powdered Form, Steamed Ginseng Extract in Powdered Form)	04.2.2.2
321-2015	Ginseng Products (Ginseng Extract, Steamed Ginseng Extract)	04.2.2.6
322R-2015	Non-fermented Soybean Products (Plain Soybean Beverage, Composite/Flavoured Soybean Beverage, Soybean-Based Beverages) (Regional Standard)	06.8.1

Standard No	Codex Standard Title	Food Cat. No.
322R-2015	Non-fermented Soybean Products (Dehydrated Soybean Curd Film) (Regional Standard)	06.8.2
322R-2015	Non-fermented Soybean Products (Semisolid Soybean Curd, Soybean Curd) (Regional Standard)	06.8.3
322R-2015	Non-fermented Soybean Products (Compressed Soybean Curd) (Regional Standard)	06.8.4
323R-2017	Laver Products (Dried laver products and dried seasoned laver products) (Regional Standard)	04.2.2.2
323R-2017	Laver Products (Roasted laver products and roasted seasoned laver products) (Regional Standard)	04.2.2.8
324R-2017	Yacon (Regional Standard)	04.2.1.1
325R-2017	Unrefined Shea Butter (Regional Standard)	02.1.2
326-2017	Black, White and Green Pepper	12.2.1
327-2017	Cumin	12.2.1
328-2017	Dried Thyme	12.2.1
329-2017	Fish oils	02.1.3
330-2018	Aubergines (untreated)	04.2.1.1
330-2018	Aubergines (surface-treated)	04.2.1.2
331-2017	Dairy Permeate Powders	01.8.2
332R-2018	Doogh (Regional Standard) (plain, not heat treated)	01.2.1.1
332R-2018	Doogh (Regional Standard) (plain, heat treated)	01.2.1.2
332R-2018	Doogh (Regional Standard) (flavoured, heat treated and not heat treated)	01.1.4
333-2019	Quinoa	06.1
334R-2020	Fermented cooked cassava-based products (Regional Standard)	04.2.2.8
335R-2020	Fresh leaves of <i>Gnetum</i> spp. (Regional Standard)	04.2.1.1
336R-2020	Kava products for use as a beverage when mixed with water (Regional Standard): Fresh Kava Products	04.2.1.1
336R-2020	Kava products for use as a beverage when mixed with water (Regional Standard): Dried Kava Products	04.2.2.2
337-2020	Fresh garlic (untreated)	04.2.1.1
337-2020	Fresh garlic (surface-treated)	04.2.1.2
338-2020	Kiwifruit	04.1.1.1
339-2020	Ware potatoes (untreated)	04.2.1.1
339-2020	Ware potatoes (surface-treated)	04.2.1.2
340-2020	Yam	04.2.1.1
341R-2020	Mixed zaatar (Regional Standard)	04.2.2.2
342-2021	Dried oregano	12.2.1
343-2021	Dried or dehydrated ginger	12.2.1
344-2021	Cloves	12.2.1
345-2021	Dried basil	12.2.1
347-2019	Dried or dehydrated garlic	12.2.1

GENERAL STANDARD FOR FOOD ADDITIVES

TABLE ONE

Additives Permitted for Use Under Specified Conditions in Certain Food Categories or Individual Food Items

ACESULFAME POTASSIUM

INS 950 Acesulfame potassium Functional Class: Flavour enhancer, Sweetener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	350 mg/kg	478 & 188	2019
01.3.2	Beverage whiteners	2000 mg/kg	188, 201, 478, XS250, XS252	2021
01.4.4	Cream analogues	1000 mg/kg	188, 478 & 68	2021
01.5.2	Milk and cream powder analogues	1000 mg/kg	188, 478, XS251 & 408	2021
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	350 mg/kg	478 & 188	2019
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	350 mg/kg	188 & 478	2021
03.0	Edible ices, including sherbet and sorbet	800 mg/kg	478 & 188	2019
04.1.2.1	Frozen fruit	500 mg/kg	188, 478 & 358	2021
04.1.2.3	Fruit in vinegar, oil, or brine	200 mg/kg	144 & 188	2021
04.1.2.4	Canned or bottled (pasteurized) fruit	350 mg/kg	188, 478 & XS319	2021
04.1.2.5	Jams, jellies, marmelades	1000 mg/kg	478 & 188	2019
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	1000 mg/kg	478 & 188	2019
04.1.2.7	Candied fruit	500 mg/kg	188 & 478	2021
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	350 mg/kg	478 & 188	2019
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	350 mg/kg	478 & 188	2019
04.1.2.10	Fermented fruit products	350 mg/kg	478 & 188	2019
04.1.2.11	Fruit fillings for pastries	350 mg/kg	188 & 478	2021
04.1.2.12	Cooked fruit	500 mg/kg	478 & 188	2019
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	200 mg/kg	144 & 188	2007

Table One

ACESULFAME POTASSIUM

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.4	Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	350 mg/kg	188 & 478	2021
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	1000 mg/kg	188	2008
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	350 mg/kg	188 & 478	2021
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	1000 mg/kg	188	2008
05.1.1	Cocoa mixes (powders) and cocoa mass/cake	350 mg/kg	97, 188 & XS141	2016
05.1.2	Cocoa mixes (syrups)	350 mg/kg	97, 188 & 478	2021
05.1.3	Cocoa-based spreads, including fillings	1000 mg/kg	478, 188 & XS86	2019
05.1.4	Cocoa and chocolate products	500 mg/kg	478 & 188	2019
05.1.5	Imitation chocolate, chocolate substitute products	500 mg/kg	188 & 478	2021
05.2.1	Hard candy	500 mg/kg	156, 478 & 188	2019
05.2.2	Soft candy	1000 mg/kg	157, 478, 188 & XS309R	2019
05.2.3	Nougats and marzipans	1000 mg/kg	478 & 188	2019
05.3	Chewing gum	5000 mg/kg	478 & 188	2019
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	500 mg/kg	478 & 188	2019
06.3	Breakfast cereals, including rolled oats	1200 mg/kg	478 & 188	2019
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	350 mg/kg	188 & 478	2021
07.1	Bread and ordinary bakery wares	1000 mg/kg	161 & 188	2008
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	1000 mg/kg	165 & 188	2007
09.2	Processed fish and fish products, including mollusks, crustaceans, and echinoderms	200 mg/kg	144, 188, XS36, XS92, XS95, XS165, XS166, XS167, XS189, XS190, XS191, XS222, XS236, XS244, XS292, XS311, XS312 & XS315	2018
09.3	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms	200 mg/kg	144, 188 & XS291	2018
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	200 mg/kg	144, 188, XS3, XS37, XS70, XS90, XS94 & XS119	2018
10.4	Egg-based desserts (e.g. custard)	350 mg/kg	478 & 188	2019
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	1000 mg/kg	159 & 188	2007

Table One

ACESULFAME POTASSIUM

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
11.6	Table-top sweeteners, including those containing high-intensity sweeteners	GMP	188	2007
12.2	Herbs, spices, seasonings and condiments (e.g. seasoning for instant noodles)	2000 mg/kg	161, 188, XS326, XS327, XS328	2021
12.3	Vinegars	2000 mg/kg	188, 478 & 277	2021
12.4	Mustards	350 mg/kg	188	2007
12.5	Soups and broths	110 mg/kg	478, 188 & XS117	2019
12.6	Sauces and like products	1000 mg/kg	188	2007
12.7	Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	350 mg/kg	188 & 478	2021
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	500 mg/kg	188	2007
13.4	Dietetic formulae for slimming purposes and weight reduction	450 mg/kg	188	2007
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	450 mg/kg	188	2007
13.6	Food supplements	2000 mg/kg	188	2007
14.1.3.1	Fruit nectar	350 mg/kg	188	2005
14.1.3.2	Vegetable nectar	350 mg/kg	188 & 478	2021
14.1.3.3	Concentrates for fruit nectar	350 mg/kg	127 & 188	2005
14.1.3.4	Concentrates for vegetable nectar	350 mg/kg	127, 188 & 478	2021
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	600 mg/kg	161 & 188	2007
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	600 mg/kg	160, 161 & 188	2007
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	350 mg/kg	188	2007
15.0	Ready-to-eat savouries	350 mg/kg	188	2007

ACETIC ACID, GLACIAL

INS 260

Acetic acid, glacial

Functional Class: Acidity regulator, Preservative

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.6.6	Whey protein cheese	GMP		2006
04.2.1.1	Untreated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes [(including soybeans)], and aloe vera), seaweeds, and nuts and seeds	GMP	262 & 263	2013
04.2.2.1	Frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	GMP	262 & 263	2013
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013

Table One

ACETIC ACID, GLACIAL

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2015
09.2.4	Cooked and/or fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP		2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	437, XS167, XS189, XS222, XS236 & XS244	2018
10.2.1	Liquid egg products	GMP		2013
10.2.2	Frozen egg products	GMP		2013
12.1.2	Salt Substitutes	GMP		2013
13.2	Complementary foods for infants and young children	5000 mg/kg	238	2013
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2013

ACETIC AND FATTY ACID ESTERS OF GLYCEROL

INS 472a Acetic and fatty acid esters of glycerol Functional Class: Emulsifier, Sequestrant, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	407	2018
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
04.1.1.2	Surface-treated fresh fruit	GMP	454	2021
06.4.1	Fresh pastas and noodles and like products	GMP	211	2015
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	16 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2014
09.2.4.1	Cooked fish and fish products	GMP	241	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2015

Table One

ACETIC AND FATTY ACID ESTERS OF GLYCEROL

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, XS167, XS189, XS222, XS236, XS244 & XS311	2018
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
13.2	Complementary foods for infants and young children	5000 mg/kg	239 & 268	2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

ACETYLATED DISTARCH ADIPATE

INS 1422 Acetylated distarch adipate Functional Class: Emulsifier, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
06.4.2	Dried pastas and noodles and like products	GMP	256	2015
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	63	2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
13.1.2	Follow-up formulae	5000 mg/kg	72, 150, 285 & 292	2014
13.2	Complementary foods for infants and young children	50000 mg/kg	269 & 270	2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

ACETYLATED DISTARCH PHOSPHATE

INS 1414 Acetylated distarch phosphate Functional Class: Emulsifier, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
04.1.1.2	Surface-treated fresh fruit	GMP	454	2021

Table One

ACETYLATED DISTARCH PHOSPHATE

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
06.4.2	Dried pastas and noodles and like products	GMP	256	2015
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	63	2014
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2014
09.2.4.1	Cooked fish and fish products	GMP	241	2014
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2014
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, XS167, XS189, XS222, XS236, XS244 & XS311	2018
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
13.1.1	Infant formulae	5000 mg/kg	72, 150, 284 & 292	2014
13.1.2	Follow-up formulae	5000 mg/kg	72, 150, 285 & 292	2014
13.1.3	Formulae for special medical purposes for infants	5000 mg/kg	72, 150 & 292	2014
13.2	Complementary foods for infants and young children	50000 mg/kg	269 & 270	2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

ACETYLATED OXIDIZED STARCH

INS 1451 Acetylated oxidized starch Functional Class: Emulsifier, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
13.2	Complementary foods for infants and young children	50000 mg/kg	239 & 269	2014

ACID-TREATED STARCH

INS 1401 Acid-treated starch Functional Class: Emulsifier, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013

Table One

ACID-TREATED STARCH

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP	236	2013
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	63	2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

ADIPATES

INS 355 Adipic acid Functional Class: Acidity regulator

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	1500 mg/kg	1	2016

ADVANTAME

INS 969 Advantame Functional Class: Flavour enhancer, Sweetener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	10 mg/kg	478	2021
03.0	Edible ices, including sherbet and sorbet	10 mg/kg	478	2021
04.1.2.5	Jams, jellies, marmelades	10 mg/kg	478 & XS296	2021
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	10 mg/kg	478 & XS160	2021
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	10 mg/kg	478, XS240 & XS314R	2021
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	10 mg/kg	478	2021
04.1.2.10	Fermented fruit products	10 mg/kg	478	2021
04.1.2.12	Cooked fruit	10 mg/kg	478	2021
05.1.3	Cocoa-based spreads, including fillings	10 mg/kg	478 & XS86	2021
05.1.4	Cocoa and chocolate products	20 mg/kg	478	2021
05.2.1	Hard candy	40 mg/kg	114 & 478	2021
05.2.2	Soft candy	30 mg/kg	114, 478 & XS309R	2021
05.2.3	Nougats and marzipans	30 mg/kg	478	2021
05.3	Chewing gum	400 mg/kg	478	2021
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	20 mg/kg	478	2021
06.3	Breakfast cereals, including rolled oats	10 mg/kg	478	2021
10.4	Egg-based desserts (e.g. custard)	10 mg/kg	478	2021
12.5	Soups and broths	12 mg/kg	478 & XS117	2021

Table One

ADVANTAME

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	10 mg/kg	478	2021
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	6 mg/kg	160 & 478	2021

AGAR

INS 406 Agar Functional Class: Bulking agent, Carrier, Emulsifier, Gelling agent, Glazing agent, Humectant, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2015
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2015
01.2.2	Renneted milk (plain)	GMP		2015
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
04.1.1.2	Surface-treated fresh fruit	GMP	453 & 454	2021
04.2.1.2	Surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	GMP	455 & 456	2021
06.4.1	Fresh pastas and noodles and like products	GMP	211	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2015
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	3, 53, XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP		2014
09.2.4.1	Cooked fish and fish products	GMP	241	2015
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	GMP	241	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41 & 325	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, XS167, XS189, XS222, XS236, XS244 & XS311	2018
10.2.1	Liquid egg products	GMP		2014
10.2.2	Frozen egg products	GMP		2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014

Table One

AGAR

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

ALGINIC ACID

INS 400 Alginic acid Functional Class: Bulking agent, Carrier, Emulsifier, Foaming agent, Gelling agent, Glazing agent, Humectant, Sequestrant, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
04.1.1.2	Surface-treated fresh fruit	GMP	454	2021
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
06.4.1	Fresh pastas and noodles and like products	GMP	211	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	16, XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41 & 332	2015
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP		2015
09.2.4.1	Cooked fish and fish products	GMP	325	2015
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	GMP	16	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41 & 332	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, 332, XS167, XS189, XS222, XS236, XS244 & XS311	2018
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

ALITAME

INS 956 Alitame Functional Class: Sweetener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
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Table One

ALITAME

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
03.0	Edible ices, including sherbet and sorbet	100 mg/kg	477	2021
05.3	Chewing gum	300 mg/kg	477	2021
11.6	Table-top sweeteners, including those containing high-intensity sweeteners	GMP		2007
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	40 mg/kg	477	2021

ALKALINE TREATED STARCH

INS 1402 Alkaline treated starch Functional Class: Emulsifier, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	63	2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

ALLURA RED AC

INS 129 Allura red AC Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	300 mg/kg	52 & 161	2009
01.6.2.2	Rind of ripened cheese	100 mg/kg		2009
01.6.4	Processed cheese	100 mg/kg	161	2009
01.6.5	Cheese analogues	100 mg/kg	3	2009
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	300 mg/kg	161	2009
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	300 mg/kg	161	2009
03.0	Edible ices, including sherbet and sorbet	150 mg/kg		2009
04.1.2.5	Jams, jellies, marmelades	100 mg/kg	161	2009
04.1.2.7	Candied fruit	300 mg/kg	161	2009
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	300 mg/kg	161 & 182	2009
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	300 mg/kg	161	2009
04.1.2.11	Fruit fillings for pastries	300 mg/kg	161	2009

Table One

ALLURA RED AC

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	300 mg/kg	161	2009
04.2.2.4	Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	200 mg/kg	161	2009
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	200 mg/kg	92 & 161	2009
05.1.3	Cocoa-based spreads, including fillings	300 mg/kg	XS86	2021
05.1.4	Cocoa and chocolate products	300 mg/kg	183	2016
05.1.5	Imitation chocolate, chocolate substitute products	300 mg/kg		2009
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	300 mg/kg	XS309R	2017
05.3	Chewing gum	300 mg/kg		2009
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	300 mg/kg		2009
06.3	Breakfast cereals, including rolled oats	300 mg/kg		2009
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	300 mg/kg		2009
07.1.2	Crackers, excluding sweet crackers	300 mg/kg	161	2009
07.1.3	Other ordinary bakery products (e.g. bagels, pita, English muffins)	300 mg/kg	161	2009
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	300 mg/kg	161	2009
08.3.2	Heat-treated processed comminuted meat, poultry, and game products	25 mg/kg	161, XS88, XS89 & XS98	2014
08.4	Edible casings (e.g. sausage casings)	300 mg/kg	16	2009
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	300 mg/kg	95, XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.4.1	Cooked fish and fish products	300 mg/kg	95	2009
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	250 mg/kg		2009
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	300 mg/kg	382, XS167, XS189, XS222, XS236 & XS244	2018
09.3.3	Salmon substitutes, caviar, and other fish roe products	300 mg/kg	XS291	2018
09.3.4	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g. fish paste), excluding products of food categories 09.3.1 - 09.3.3	300 mg/kg		2009
10.1	Fresh eggs	100 mg/kg	4	2009
10.4	Egg-based desserts (e.g. custard)	300 mg/kg	161	2009
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	300 mg/kg	161	2009
12.2.2	Seasonings and condiments	300 mg/kg		2009

Table One

ALLURA RED AC

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
12.4	Mustards	300 mg/kg		2009
12.5	Soups and broths	300 mg/kg	161 & 337	2015
12.6	Sauces and like products	300 mg/kg	XS302	2018
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	50 mg/kg		2009
13.4	Dietetic formulae for slimming purposes and weight reduction	50 mg/kg		2009
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	300 mg/kg		2009
13.6	Food supplements	300 mg/kg		2009
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	150 mg/kg	127	2021
14.2.2	Cider and perry	200 mg/kg		2009
14.2.4	Wines (other than grape)	200 mg/kg		2009
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	300 mg/kg		2009
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	200 mg/kg		2009
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	200 mg/kg	161	2009
15.2	Processed nuts, including coated nuts and nut mixtures (with e.g. dried fruit)	100 mg/kg		2009

ALPHA AMYLASE FROM ASPERGILLUS ORYZAE VAR.

INS 1100(i) alpha-Amylase from Aspergillus oryzae var. Functional Class: Flour treatment agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
06.2	Flours and starches (including soybean powder)	GMP		1999

ALPHA-AMYLASE FROM BACILLUS SUBTILIS

INS 1100(iii) alpha-Amylase from Bacillus subtilis Functional Class: Flour treatment agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
06.2	Flours and starches (including soybean powder)	GMP	XS152	2019

ALUMINIUM AMMONIUM SULFATE

INS 523 Aluminium ammonium sulfate Functional Class: Acidity regulator, Colour retention agent, Firming agent, Raising agent, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	520 mg/kg	6, 245, 296 & XS66	2017

Table One

ALUMINIUM AMMONIUM SULFATE

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
06.4.1	Fresh pastas and noodles and like products	300 mg/kg	6 & 247	2013
07.1.2	Crackers, excluding sweet crackers	100 mg/kg	6 & 246	2013
07.1.3	Other ordinary bakery products (e.g. bagels, pita, English muffins)	100 mg/kg	6, 244 & 246	2013
07.1.5	Steamed breads and buns	40 mg/kg	6, 246 & 248	2013
07.1.6	Mixes for bread and ordinary bakery wares	40 mg/kg	6, 246 & 249	2013
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	200 mg/kg	6 & 250	2013

AMARANTH

INS 123 Amaranth Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	50 mg/kg	52	2017
05.3	Chewing gum	100 mg/kg		2019
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	100 mg/kg		2019
06.4.3	Pre-cooked pastas and noodles and like products	100 mg/kg	194	2019
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	30 mg/kg	435, XS3, XS70, XS90, XS94 & XS119	2018
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	100 mg/kg		2021

AMMONIUM ALGINATE

INS 403 Ammonium alginate Functional Class: Bulking agent, Carrier, Emulsifier, Foaming agent, Gelling agent, Glazing agent, Humectant, Sequestrant, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
04.1.1.2	Surface-treated fresh fruit	GMP	454	2021
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	63	2017
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014

AMMONIUM CARBONATE

AMMONIUM CARBONATE

INS 503(i) Ammonium carbonate Functional Class: Acidity regulator, Raising agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2013
13.2	Complementary foods for infants and young children	GMP	239 & 248	2013

AMMONIUM HYDROGEN CARBONATE

INS 503(ii) Ammonium hydrogen carbonate Functional Class: Acidity regulator, Raising agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	63	2017
13.2	Complementary foods for infants and young children	GMP	239 & 248	2013

AMMONIUM HYDROXIDE

INS 527 Ammonium hydroxide Functional Class: Acidity regulator

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP		2013

AMMONIUM SALTS OF PHOSPHATIDIC ACID

INS 442 Ammonium salts of phosphatidic acid Functional Class: Emulsifier

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	5000 mg/kg	231	2012
05.1.1	Cocoa mixes (powders) and cocoa mass/cake	10000 mg/kg	97	2009
05.1.4	Cocoa and chocolate products	10000 mg/kg	101	2016
05.1.5	Imitation chocolate, chocolate substitute products	10000 mg/kg		2009

ANNATTO EXTRACTS, BIXIN-BASED

INS 160b(i) Annatto extracts, bixin-based Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	20 mg/kg	8 & 52	2017
01.2.1	Fermented milks (plain)	10 mg/kg	8, 508, 509, XS33, XS210	2021
02.1.1	Butter oil, anhydrous milkfat, ghee	10 mg/kg	8, 508	2021

Table One

ANNATTO EXTRACTS, BIXIN-BASED

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
02.1.2	Vegetable oils and fats	10 mg/kg	8, 508, 509, XS33, XS210	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	10 mg/kg	8, 512, XS329	2021
02.2.1	Butter	20 mg/kg	8	2008
02.2.2	Fat spreads, dairy fat spreads and blended spreads	100 mg/kg	8	2021
05.1.3	Cocoa-based spreads, including fillings	50 mg/kg	8 & XS86	2021
05.1.4	Cocoa and chocolate products	50 mg/kg	8 & 183	2021
05.1.5	Imitation chocolate, chocolate substitute products	50 mg/kg	8	2021
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	200 mg/kg	8	2019
05.3	Chewing gum	300 mg/kg	8	2019
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	80 mg/kg	8	2019
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	10 mg/kg	8, 382, XS167, XS189, XS222, XS236 & XS244	2018
13.6	Food supplements	200 mg/kg	8 & 539	2021
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	30 mg/kg	8 & 127	2021
14.2.4	Wines (other than grape)	20 mg/kg	8	2021
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	30 mg/kg	8	2021
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	30 mg/kg	8	2021

ANNATTO EXTRACTS, NORBIXIN-BASED

INS 160b(ii) Annatto extracts, norbixin-based Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	10 mg/kg	52 & 185	2017
01.6.1	Unripened cheese	25 mg/kg	185, 485, XS273	2021
01.6.2.1	Ripened cheese, includes rind	25 mg/kg	185, 463, 506, XS208, XS278	2021
05.1.3	Cocoa-based spreads, including fillings	30 mg/kg	185 & XS86	2021
05.1.5	Imitation chocolate, chocolate substitute products	25 mg/kg	185	2021
05.2.1	Hard candy	30 mg/kg	185, 440	2019
05.2.2	Soft candy	30 mg/kg	185, 440 & 443	2019
05.2.3	Nougats and marzipans	30 mg/kg	185	2019
05.3	Chewing gum	50 mg/kg	185	2019
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	25 mg/kg	185 & 446	2019
13.6	Food supplements	100 mg/kg	185 & 539	2021

Table One

ANNATTO EXTRACTS, NORBIXIN-BASED

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	10 mg/kg	185	2021
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	10 mg/kg	185	2021

ASCORBIC ACID, L-

INS 300

Ascorbic acid, L-

Functional Class: Acidity regulator, Antioxidant, Flour treatment agent, Sequestrant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	410	2018
02.1.3	Lard, tallow, fish oil, and other animal fats	GMP	XS19, XS211	2021
04.2.1.1	Untreated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes [(including soybeans)], and aloe vera), seaweeds, and nuts and seeds	500 mg/kg	262	2013
04.2.2.1	Frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	GMP	110	2014
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
06.2.1	Flours	300 mg/kg	472	2019
06.4.1	Fresh pastas and noodles and like products	200 mg/kg		2013
06.4.2	Dried pastas and noodles and like products	GMP	256	2013
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.1.2	Fresh mollusks, crustaceans, and echinoderms	GMP	390, XS312 & XS315	2017
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	307, 392, XS189, XS190, XS191, XS222, XS236, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	306 & 307	2015
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2015
09.2.4	Cooked and/or fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP		2013
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS167, XS189, XS222, XS236 & XS311	2018
12.1.2	Salt Substitutes	GMP		2013
13.1.2	Follow-up formulae	50 mg/kg	72, 242 & 315	2015
13.2	Complementary foods for infants and young children	500 mg/kg	242	2013
14.1.2.1	Fruit juice	GMP		2005
14.1.2.2	Vegetable juice	GMP		2013

Table One

ASCORBIC ACID, L-

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.1.2.3	Concentrates for fruit juice	GMP	127	2005
14.1.2.4	Concentrates for vegetable juice	GMP		2013
14.1.3.1	Fruit nectar	GMP		2005
14.1.3.2	Vegetable nectar	GMP		2013
14.1.3.3	Concentrates for fruit nectar	GMP	127	2005
14.1.3.4	Concentrates for vegetable nectar	GMP		2013
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2013

ASCORBYL ESTERS

INS 304 Ascorbyl palmitate Functional Class: Antioxidant

INS 305 Ascorbyl stearate Functional Class: Antioxidant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.3.2	Beverage whiteners	80 mg/kg	10, XS250 & XS252	2021
01.5.1	Milk powder and cream powder (plain)	500 mg/kg	10	2001
01.5.2	Milk and cream powder analogues	80 mg/kg	10	2001
01.6.1	Unripened cheese	500 mg/kg	10, XS221, XS273	2021
01.6.2.1	Ripened cheese, includes rind	500 mg/kg	10, 112, XS208, XS263, XS264, XS265, XS266, XS267, XS268, XS269, XS270, XS271, XS272, XS274, XS276, XS277, XS278, XS283	2021
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	500 mg/kg	2 & 10	2001
02.1.1	Butter oil, anhydrous milkfat, ghee	500 mg/kg	10 & 171	2006
02.1.2	Vegetable oils and fats	500 mg/kg	10, 511, XS33	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	500 mg/kg	10, 526	2021
02.2.2	Fat spreads, dairy fat spreads and blended spreads	500 mg/kg	10	2006
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	500 mg/kg	10	2001
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	80 mg/kg	10	2001
03.0	Edible ices, including sherbet and sorbet	200 mg/kg	10 & 15	2001
04.1.2.2	Dried fruit	80 mg/kg	10	2001
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	500 mg/kg	2 & 10	2001

Table One

ASCORBYL ESTERS

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.2	Dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	80 mg/kg	10	2001
05.0	Confectionery	500 mg/kg	10, 15, 375, XS86, XS105, XS141 & XS309R	2017
06.3	Breakfast cereals, including rolled oats	200 mg/kg	10	2001
06.4.3	Pre-cooked pastas and noodles and like products	500 mg/kg	10 & 211	2012
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	500 mg/kg	2 & 10	2001
07.0	Bakery wares	1000 mg/kg	10 & 15	2003
08.4	Edible casings (e.g. sausage casings)	5000 mg/kg	10	2001
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	1000 mg/kg	10, 392, XS36, XS92, XS95, XS190, XS191, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	1000 mg/kg	10	2001
10.4	Egg-based desserts (e.g. custard)	500 mg/kg	2 & 10	2001
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	200 mg/kg	10	2003
12.2	Herbs, spices, seasonings and condiments (e.g. seasoning for instant noodles)	500 mg/kg	10, XS326, XS327, XS328	2021
12.4	Mustards	500 mg/kg	10	2003
12.5	Soups and broths	200 mg/kg	10	2001
12.6.1	Emulsified sauces and dips (e.g. mayonnaise, salad dressing, onion dip)	500 mg/kg	10 & 15	2001
12.6.2	Non-emulsified sauces (e.g. ketchup, cheese sauce, cream sauce, brown gravy)	500 mg/kg	10	2005
12.6.3	Mixes for sauces and gravies	200 mg/kg	10	2001
12.6.4	Clear sauces (e.g. fish sauce)	200 mg/kg	10 & XS302	2018
12.7	Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	200 mg/kg	10	2001
13.1.1	Infant formulae	10 mg/kg	72 & 187	2019
13.1.2	Follow-up formulae	50 mg/kg	72, 187 & 315	2019
13.1.3	Formulae for special medical purposes for infants	10 mg/kg	72 & 187	2019
13.2	Complementary foods for infants and young children	200 mg/kg	15, 187	2018
13.4	Dietetic formulae for slimming purposes and weight reduction	500 mg/kg	10	2005
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	500 mg/kg	10	2009
13.6	Food supplements	500 mg/kg	10	2003
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	1000 mg/kg	10 & 15	2001
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	200 mg/kg	10	2001

Table One

ASCORBYL ESTERS

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
15.2	Processed nuts, including coated nuts and nut mixtures (with e.g. dried fruit)	200 mg/kg	10	2001

ASPARTAME

INS 951

Aspartame

Functional Class: Flavour enhancer, Sweetener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	600 mg/kg	478, 191 & 405	2019
01.3.2	Beverage whiteners	6000 mg/kg	191, 201, 478, XS250, XS252	2021
01.4.4	Cream analogues	1000 mg/kg	191, 478 & 68	2021
01.5.2	Milk and cream powder analogues	2000 mg/kg	191, 478, XS251 & 408	2021
01.6.1	Unripened cheese	1000 mg/kg	191, 201, 478, XS221, XS262, XS273 & XS275	2021
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	1000 mg/kg	478 & 191	2019
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	1000 mg/kg	191 & 478	2021
03.0	Edible ices, including sherbet and sorbet	1000 mg/kg	478 & 191	2019
04.1.2.1	Frozen fruit	2000 mg/kg	191, 478, & 358	2021
04.1.2.3	Fruit in vinegar, oil, or brine	300 mg/kg	144 & 191	2007
04.1.2.4	Canned or bottled (pasteurized) fruit	1000 mg/kg	191, 478 & XS319	2021
04.1.2.5	Jams, jellies, marmelades	1000 mg/kg	478 & 191	2019
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	1000 mg/kg	478 & 191	2019
04.1.2.7	Candied fruit	2000 mg/kg	191 & 478	2021
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	1000 mg/kg	478 & 191	2019
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	1000 mg/kg	478 & 191	2019
04.1.2.10	Fermented fruit products	1000 mg/kg	478 & 191	2019
04.1.2.11	Fruit fillings for pastries	1000 mg/kg	191 & 478	2021
04.1.2.12	Cooked fruit	1000 mg/kg	478 & 191	2019
04.2.2.2	Dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	1000 mg/kg	144, 191 & 348	2021
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	300 mg/kg	144 & 191	2007
04.2.2.4	Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	1000 mg/kg	191 & 478	2021

Table One

ASPARTAME

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	1000 mg/kg	191 & 478	2021
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	1000 mg/kg	191 & 478	2021
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	2500 mg/kg	144 & 191	2021
04.2.2.8	Cooked or fried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	1000 mg/kg	144, 191, 478 & 345	2021
05.1.1	Cocoa mixes (powders) and cocoa mass/cake	3000 mg/kg	97, 191 & XS141	2016
05.1.2	Cocoa mixes (syrups)	1000 mg/kg	191 & 478	2021
05.1.3	Cocoa-based spreads, including fillings	3000 mg/kg	478, 191 & XS86	2019
05.1.4	Cocoa and chocolate products	3000 mg/kg	37, 478 & 191	2019
05.1.5	Imitation chocolate, chocolate substitute products	3000 mg/kg	191 & 478	2021
05.2.1	Hard candy	3000 mg/kg	478 & 148	2019
05.2.2	Soft candy	3000 mg/kg	148, 478 & XS309R	2019
05.2.3	Nougats and marzipans	3000 mg/kg	478 & 191	2019
05.3	Chewing gum	10000 mg/kg	478 & 191	2019
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	1000 mg/kg	478 & 191	2019
06.3	Breakfast cereals, including rolled oats	1000 mg/kg	478 & 191	2019
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	1000 mg/kg	191 & 478	2021
07.1	Bread and ordinary bakery wares	4000 mg/kg	161 & 191	2008
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	1700 mg/kg	165 & 191	2007
09.2	Processed fish and fish products, including mollusks, crustaceans, and echinoderms	300 mg/kg	144, 191, XS36, XS92, XS95, XS165, XS166, XS167, XS189, XS190, XS191, XS222, XS236, XS244, XS292, XS311, XS312 & XS315	2018
09.3	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms	300 mg/kg	144, 191 & XS291	2018
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	300 mg/kg	144, 191, XS3, XS37, XS70, XS90, XS94 & XS119	2018
10.4	Egg-based desserts (e.g. custard)	1000 mg/kg	478 & 191	2019
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	3000 mg/kg	159 & 191	2007

Table One

ASPARTAME

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
11.6	Table-top sweeteners, including those containing high-intensity sweeteners	GMP	191	2007
12.2.2	Seasonings and condiments	2000 mg/kg	161 & 191	2008
12.3	Vinegars	3000 mg/kg	191, 478 & 277	2021
12.4	Mustards	350 mg/kg	191	2007
12.5	Soups and broths	1200 mg/kg	478, 188 & XS117	2019
12.6	Sauces and like products	350 mg/kg	191	2007
12.7	Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	350 mg/kg	166 & 478	2021
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	1000 mg/kg	191	2007
13.4	Dietetic formulae for slimming purposes and weight reduction	800 mg/kg	191	2007
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	1000 mg/kg	191	2007
13.6	Food supplements	5500 mg/kg	191	2007
14.1.3.1	Fruit nectar	600 mg/kg	191	2005
14.1.3.2	Vegetable nectar	600 mg/kg	191 & 478	2021
14.1.3.3	Concentrates for fruit nectar	600 mg/kg	127 & 191	2005
14.1.3.4	Concentrates for vegetable nectar	600 mg/kg	127 & 478	2021
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	600 mg/kg	478 & 191	2019
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	600 mg/kg	160 & 478	2019
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	600 mg/kg	191	2007
15.0	Ready-to-eat savouries	500 mg/kg	191	2008

ASPARTAME-ACESULFAME SALT

INS 962 Aspartame-acesulfame salt Functional Class: Sweetener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	350 mg/kg	113 & 477	2019
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	350 mg/kg	113 & 477	2019
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	350 mg/kg	113 & 477	2021
03.0	Edible ices, including sherbet and sorbet	1000 mg/kg	119 & 477	2021
04.1.2.4	Canned or bottled (pasteurized) fruit	350 mg/kg	113, 477 & XS319	2021
04.1.2.5	Jams, jellies, marmelades	1000 mg/kg	119 & 477	2019
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	1000 mg/kg	119, 477 & XS160	2021

Table One

ASPARTAME-ACESULFAME SALT

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	350 mg/kg	113 & 477	2019
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	350 mg/kg	113 & 477	2019
04.1.2.10	Fermented fruit products	350 mg/kg	113 & 477	2021
04.1.2.12	Cooked fruit	500 mg/kg	113 & 477	2021
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	200 mg/kg	113 & 144	2021
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	350 mg/kg	113 & 477	2021
05.1.3	Cocoa-based spreads, including fillings	1000 mg/kg	113, 477 & XS86	2021
05.1.4	Cocoa and chocolate products	500 mg/kg	113 & 477	2021
05.1.5	Imitation chocolate, chocolate substitute products	500 mg/kg	113 & 477	2021
05.3	Chewing gum	5000 mg/kg	113 & 477	2021
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	500 mg/kg	113 & 477	2021
06.3	Breakfast cereals, including rolled oats	1000 mg/kg	119 & 477	2021
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	1000 mg/kg	77 & 113	2009
09.3	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms	200 mg/kg	113 & XS291	2018
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	200 mg/kg	113, XS3, XS37, XS70, XS90, XS94 & XS119	2018
10.4	Egg-based desserts (e.g. custard)	350 mg/kg	113 & 477	2021
11.6	Table-top sweeteners, including those containing high-intensity sweeteners	GMP		2012
12.5	Soups and broths	110 mg/kg	113, 138, 477 & XS117	2021
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	500 mg/kg	113	2012
13.4	Dietetic formulae for slimming purposes and weight reduction	450 mg/kg	113	2009
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	450 mg/kg	113	2009
13.6	Food supplements	2000 mg/kg	113	2012
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	600 mg/kg	119 & 477	2021
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	600 mg/kg	119, 160 & 477	2021
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	350 mg/kg	113	2010

AZODICARBONAMIDE

AZODICARBONAMIDE

INS 927a Azodicarbonamide Functional Class: Flour treatment agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
06.2.1	Flours	45 mg/kg	467	2019

AZORUBINE (CARMOISINE)

INS 122 Azorubine (Carmoisine) Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	150 mg/kg	52	2017
05.2.1	Hard candy	50 mg/kg	441	2019
05.2.2	Soft candy	100 mg/kg		2019
05.2.3	Nougats and marzipans	50 mg/kg		2019
05.3	Chewing gum	100 mg/kg		2019
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	300 mg/kg	447	2019
12.5	Soups and broths	50 mg/kg	99	2015
13.6	Food supplements	300 mg/kg	539 & 533	2021
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	95 mg/kg	127	2021
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	200 mg/kg		2021
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	100 mg/kg		2021

BEESWAX

INS 901 Beeswax Functional Class: Carrier, Emulsifier, Glazing agent, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.1.2	Surface-treated fresh fruit	GMP		2003
04.2.1.2	Surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	GMP	79	2003
05.1.4	Cocoa and chocolate products	GMP	3	2001
05.1.5	Imitation chocolate, chocolate substitute products	GMP	3	2001
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	GMP	3 & XS309R	2017
05.3	Chewing gum	GMP		2003
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	GMP		2003
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	GMP	3	2001

Table One

BEESWAX

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
13.6	Food supplements	GMP	3	2001
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	200 mg/kg	131	2006
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	108	2001
15.0	Ready-to-eat savouries	GMP	3	2001

BENZOATES

INS 210	Benzoic acid	Functional Class: Preservative
INS 211	Sodium benzoate	Functional Class: Preservative
INS 212	Potassium benzoate	Functional Class: Preservative
INS 213	Calcium benzoate	Functional Class: Preservative

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	300 mg/kg	13	2001
02.2.2	Fat spreads, dairy fat spreads and blended spreads	1000 mg/kg	13, 529	2021
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	1000 mg/kg	13	2001
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	1000 mg/kg	13	2001
04.1.2.2	Dried fruit	800 mg/kg	13	2003
04.1.2.3	Fruit in vinegar, oil, or brine	1000 mg/kg	13	2001
04.1.2.5	Jams, jellies, marmelades	1000 mg/kg	13	2001
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	1000 mg/kg	13	2001
04.1.2.7	Candied fruit	1000 mg/kg	13	2001
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	1000 mg/kg	13	2001
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	1000 mg/kg	13	2001
04.1.2.10	Fermented fruit products	1000 mg/kg	13	2001
04.1.2.11	Fruit fillings for pastries	1000 mg/kg	13	2001
04.1.2.12	Cooked fruit	1000 mg/kg	13	2001
04.2.2.2	Dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	1000 mg/kg	13	2003
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	2000 mg/kg	13	2001
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	1000 mg/kg	13	2001

Table One

BENZOATES

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	3000 mg/kg	13	2001
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	1000 mg/kg	13	2001
04.2.2.8	Cooked or fried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	1000 mg/kg	13	2001
05.1.3	Cocoa-based spreads, including fillings	1500 mg/kg	13 & XS86	2016
05.1.5	Imitation chocolate, chocolate substitute products	1500 mg/kg	13	2003
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	1500 mg/kg	13 & XS309R	2017
05.3	Chewing gum	1500 mg/kg	13	2005
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	1500 mg/kg	13	2003
06.4.3	Pre-cooked pastas and noodles and like products	1000 mg/kg	13 & XS249	2019
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	1000 mg/kg	13	2003
07.0	Bakery wares	1000 mg/kg	13	2004
08.2.1.2	Cured (including salted) and dried non-heat treated processed meat, poultry, and game products in whole pieces or cuts	1000 mg/kg	3 & 13	2005
08.3.1.2	Cured (including salted) and dried non-heat treated processed comminuted meat, poultry, and game products	1000 mg/kg	3 & 13	2005
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	2000 mg/kg	13 & 82	2003
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	200 mg/kg	13, 121, 333, XS167, XS189, XS222 & XS236	2018
09.3	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms	2000 mg/kg	13, 120 & XS291	2018
10.2.1	Liquid egg products	5000 mg/kg	13	2003
10.4	Egg-based desserts (e.g. custard)	1000 mg/kg	13	2003
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	1000 mg/kg	13	2003
11.6	Table-top sweeteners, including those containing high-intensity sweeteners	2000 mg/kg	13	2003
12.2.2	Seasonings and condiments	1000 mg/kg	13	2003
12.3	Vinegars	1000 mg/kg	13	2003
12.4	Mustards	1000 mg/kg	13	2003
12.5	Soups and broths	500 mg/kg	13, 338 & 339	2015
12.6	Sauces and like products	1000 mg/kg	13	2003
12.7	Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	1500 mg/kg	13	2003

Table One

BENZOATES

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	1500 mg/kg	13	2003
13.4	Dietetic formulae for slimming purposes and weight reduction	1500 mg/kg	13	2003
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	2000 mg/kg	13	2003
13.6	Food supplements	2000 mg/kg	13	2003
14.1.2.1	Fruit juice	1000 mg/kg	13, 91 & 122	2004
14.1.2.3	Concentrates for fruit juice	1000 mg/kg	13, 91, 122 & 127	2004
14.1.3.1	Fruit nectar	1000 mg/kg	13, 91 & 122	2004
14.1.3.3	Concentrates for fruit nectar	1000 mg/kg	13, 91, 122 & 127	2004
14.1.3.4	Concentrates for vegetable nectar	600 mg/kg	13	2004
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	250 mg/kg	13 & 301	2016
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	1000 mg/kg	13	2004
14.2.2	Cider and perry	1000 mg/kg	13 & 124	2004
14.2.4	Wines (other than grape)	1000 mg/kg	13	2003
14.2.5	Mead	1000 mg/kg	13	2004
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	1000 mg/kg	13	2003
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	1000 mg/kg	13	2004

BENZOYL PEROXIDE

INS 928

Benzoyl peroxide

Functional Class: Bleaching agent, Flour treatment agent, Preservative

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.8.1	Liquid whey and whey products, excluding whey cheeses	100 mg/kg	74	2007
01.8.2	Dried whey and whey products, excluding whey cheeses	100 mg/kg	147	2005
06.2.1	Flours	75 mg/kg	468	2019

BLEACHED STARCH

INS 1403

Bleached starch

Functional Class: Emulsifier, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP	236	2013

Table One

BLEACHED STARCH

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

BRILLIANT BLACK (BLACK PN)

INS 151 Brilliant black (Black PN) Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	150 mg/kg	52	2017
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	100 mg/kg		2019
05.3	Chewing gum	300 mg/kg		2019
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	500 mg/kg		2019
13.6	Food supplements	530 mg/kg	539	2021
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	10 mg/kg	127	2021
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	200 mg/kg		2021
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	30 mg/kg		2021

BRILLIANT BLUE FCF

INS 133 Brilliant blue FCF Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	150 mg/kg	52	2008
01.6.2.2	Rind of ripened cheese	100 mg/kg		2005
01.6.5	Cheese analogues	100 mg/kg	3	2009
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	150 mg/kg		2005
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	100 mg/kg		2005
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	150 mg/kg		2005
03.0	Edible ices, including sherbet and sorbet	150 mg/kg		2005
04.1.2.4	Canned or bottled (pasteurized) fruit	200 mg/kg	161 & 267	2018
04.1.2.5	Jams, jellies, marmelades	100 mg/kg	161	2009
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	100 mg/kg	161	2009
04.1.2.7	Candied fruit	100 mg/kg	161	2009
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	100 mg/kg	161 & 182	2009

Table One

BRILLIANT BLUE FCF

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	150 mg/kg		2005
04.1.2.11	Fruit fillings for pastries	250 mg/kg		2005
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	500 mg/kg	161	2009
04.2.2.4	Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	200 mg/kg	161	2009
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	100 mg/kg	92 & 161	2009
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	100 mg/kg	92 & 161	2009
05.1.3	Cocoa-based spreads, including fillings	100 mg/kg	XS86	2021
05.1.4	Cocoa and chocolate products	100 mg/kg	183	2016
05.1.5	Imitation chocolate, chocolate substitute products	100 mg/kg		2009
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	300 mg/kg	XS309R	2017
05.3	Chewing gum	300 mg/kg		2005
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	500 mg/kg		2005
06.3	Breakfast cereals, including rolled oats	200 mg/kg		2005
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	150 mg/kg		2005
07.1	Bread and ordinary bakery wares	100 mg/kg	161	2009
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	200 mg/kg	161	2009
08.0	Meat and meat products, including poultry and game	100 mg/kg	4, 16, XS88, XS89, XS96, XS97 & XS98	2014
09.1.1	Fresh fish	300 mg/kg	4, 16 & 50	2008
09.1.2	Fresh mollusks, crustaceans, and echinoderms	500 mg/kg	4, 16, XS292, XS312 & XS315	2017
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	500 mg/kg	95, XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	500 mg/kg	16 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	500 mg/kg	16	2005
09.2.4.1	Cooked fish and fish products	100 mg/kg	95	2009
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	100 mg/kg		2009

Table One

BRILLIANT BLUE FCF

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	500 mg/kg	16	2005
09.3.1	Fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly	500 mg/kg	16	2005
09.3.2	Fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine	500 mg/kg	16	2005
09.3.3	Salmon substitutes, caviar, and other fish roe products	500 mg/kg	XS291	2018
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	500 mg/kg	XS3, XS37, XS70, XS90, XS94 & XS119	2018
10.1	Fresh eggs	GMP	4	2005
10.4	Egg-based desserts (e.g. custard)	150 mg/kg		2005
12.2.2	Seasonings and condiments	100 mg/kg		2009
12.4	Mustards	100 mg/kg		2009
12.5	Soups and broths	50 mg/kg		2009
12.6	Sauces and like products	100 mg/kg	XS302	2018
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	50 mg/kg		2005
13.4	Dietetic formulae for slimming purposes and weight reduction	50 mg/kg		2005
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	300 mg/kg		2005
13.6	Food supplements	300 mg/kg		2005
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	100 mg/kg		2005
14.2.2	Cider and perry	200 mg/kg		2005
14.2.4	Wines (other than grape)	200 mg/kg		2005
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	200 mg/kg		2005
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	200 mg/kg		2005
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	200 mg/kg		2005
15.2	Processed nuts, including coated nuts and nut mixtures (with e.g. dried fruit)	100 mg/kg		2005

BROMELAIN

INS 1101(iii) Bromelain

Functional Class: Flavour enhancer, Flour treatment agent, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015

BROWN HT

INS 155 Brown HT

Functional Class: Colour

Table One

BROWN HT

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	150 mg/kg	52	2017
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	50 mg/kg		2019
05.3	Chewing gum	300 mg/kg		2019
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	50 mg/kg		2019
13.6	Food supplements	300 mg/kg	539	2021
14.2.2	Cider and perry	200 mg/kg		2021
14.2.4	Wines (other than grape)	200 mg/kg		2021
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	200 mg/kg		2021

BUTYLATED HYDROXYANISOLE

INS 320 Butylated hydroxyanisole (BHA) Functional Class: Antioxidant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.3.2	Beverage whiteners	100 mg/kg	15, 195, XS250 & XS252	2021
01.5.1	Milk powder and cream powder (plain)	100 mg/kg	15 & 196	2006
01.5.2	Milk and cream powder analogues	100 mg/kg	15 & 481	2021
02.1.1	Butter oil, anhydrous milkfat, ghee	175 mg/kg	15, 133, 171, 514	2021
02.1.2	Vegetable oils and fats	200 mg/kg	15, 130, 511, 515, XS33	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	200 mg/kg	15, 130, 516	2021
02.2.2	Fat spreads, dairy fat spreads and blended spreads	200 mg/kg	15 & 130	2005
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	200 mg/kg	15 & 130	2006
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	200 mg/kg	15 & 130	2006
03.0	Edible ices, including sherbet and sorbet	200 mg/kg	15 & 195	2006
04.2.2.2	Dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	200 mg/kg	15, 76 & 196	2005
05.1.4	Cocoa and chocolate products	200 mg/kg	15, 130 & 303	2017
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	200 mg/kg	15, 130 & XS309R	2017
05.3	Chewing gum	400 mg/kg	130	2006
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	200 mg/kg	15 & 130	2007
06.3	Breakfast cereals, including rolled oats	200 mg/kg	15 & 196	2005
06.4.3	Pre-cooked pastas and noodles and like products	200 mg/kg	15 & 130	2006
07.0	Bakery wares	200 mg/kg	15 & 180	2007

Table One

BUTYLATED HYDROXYANISOLE

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
08.2	Processed meat, poultry, and game products in whole pieces or cuts	200 mg/kg	15, 130, XS96 & XS97	2014
08.3	Processed comminuted meat, poultry, and game products	200 mg/kg	15, 130, XS88, XS89 & XS98	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	200 mg/kg	15, 180, 392, XS36, XS92, XS95, XS165, XS190, XS191, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	200 mg/kg	15, 180 & XS166	2017
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	200 mg/kg	15, 196, XS167, XS189, XS222, XS236, XS244 & XS311	2018
09.3	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms	200 mg/kg	15, 180 & XS291	2018
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	200 mg/kg	15, 180, XS3, XS37, XS70, XS90, XS94 & XS119	2018
12.2	Herbs, spices, seasonings and condiments (e.g. seasoning for instant noodles)	200 mg/kg	15, 130, XS326, XS327, XS328	2021
12.5	Soups and broths	200 mg/kg	15 & 130	2006
12.6	Sauces and like products	200 mg/kg	15, 130 & XS302	2018
12.8	Yeast and like products	200 mg/kg	15	2006
13.6	Food supplements	400 mg/kg	15 & 196	2006
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	200 mg/kg	15 & 130	2005
15.2	Processed nuts, including coated nuts and nut mixtures (with e.g. dried fruit)	200 mg/kg	15 & 130	2005

BUTYLATED HYDROXYTOLUENE

INS 321 Butylated hydroxytoluene (BHT) Functional Class: Antioxidant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.3.2	Beverage whiteners	100 mg/kg	15, 195, XS250 & XS252	2021
01.5.1	Milk powder and cream powder (plain)	200 mg/kg	15 & 196	2006
01.5.2	Milk and cream powder analogues	100 mg/kg	15 & 481	2021
02.1.1	Butter oil, anhydrous milkfat, ghee	75 mg/kg	15, 133, 171, 514	2021
02.1.2	Vegetable oils and fats	200 mg/kg	15, 130, 511, 515, XS33	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	200 mg/kg	15, 130, 516	2021
02.2.2	Fat spreads, dairy fat spreads and blended spreads	200 mg/kg	15 & 130	2005
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	200 mg/kg	15 & 130	2006

Table One

BUTYLATED HYDROXYTOLUENE

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	200 mg/kg	15 & 130	2006
03.0	Edible ices, including sherbet and sorbet	100 mg/kg	15 & 195	2006
04.2.2.2	Dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	200 mg/kg	15, 76 & 196	2005
05.1.4	Cocoa and chocolate products	200 mg/kg	15, 130 & 303	2017
05.1.5	Imitation chocolate, chocolate substitute products	200 mg/kg	15 & 197	2006
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	200 mg/kg	15, 130 & XS309R	2017
05.3	Chewing gum	400 mg/kg	130	2006
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	200 mg/kg	15 & 130	2007
06.3	Breakfast cereals, including rolled oats	100 mg/kg	15 & 196	2006
06.4.3	Pre-cooked pastas and noodles and like products	200 mg/kg	15 & 130	2006
07.0	Bakery wares	200 mg/kg	15 & 180	2007
08.2	Processed meat, poultry, and game products in whole pieces or cuts	100 mg/kg	15, 130, 167, XS96 & XS97	2014
08.3	Processed comminuted meat, poultry, and game products	100 mg/kg	15, 130, 162, XS88, XS89 & XS98	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	200 mg/kg	15, 180, 392, XS36, XS92, XS95, XS165, XS190, XS191, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	200 mg/kg	15, 180 & XS166	2017
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	200 mg/kg	15, 196, XS167, XS189, XS222, XS236, XS244 & XS311	2018
09.3	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms	200 mg/kg	15, 180 & XS291	2018
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	200 mg/kg	15, 180, XS3, XS37, XS70, XS90, XS94 & XS119	2018
12.2	Herbs, spices, seasonings and condiments (e.g. seasoning for instant noodles)	200 mg/kg	15, 130, XS326, XS327, XS328	2021
12.5	Soups and broths	200 mg/kg	15, 130 & 340	2015
12.6	Sauces and like products	100 mg/kg	15, 130 & XS302	2018
13.6	Food supplements	400 mg/kg	15 & 196	2006
15.0	Ready-to-eat savouries	200 mg/kg	15 & 130	2006

CALCIUM 5'-GUANYLATE

INS 629

Calcium 5'-guanylate

Functional Class: Flavour enhancer

Table One

CALCIUM 5'-GUANYLATE

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
12.1.2	Salt Substitutes	GMP		2015

CALCIUM 5'-INOSINATE

INS 633 Calcium 5'-inosinate Functional Class: Flavour enhancer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
12.1.2	Salt Substitutes	GMP		2015

CALCIUM 5'-RIBONUCLEOTIDES

INS 634 Calcium 5'-ribonucleotides Functional Class: Flavour enhancer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP	279	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
12.1.2	Salt Substitutes	GMP		2015

CALCIUM ACETATE

INS 263 Calcium acetate Functional Class: Acidity regulator, Preservative, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2013
13.2	Complementary foods for infants and young children	GMP	239	2013

CALCIUM ALGINATE

INS 404 Calcium alginate Functional Class: Antifoaming agent, Bulking agent, Carrier, Foaming agent, Gelling agent, Glazing agent, Humectant, Sequestrant, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
04.1.1.2	Surface-treated fresh fruit	GMP	454	2021
06.4.2	Dried pastas and noodles and like products	GMP	256	2014

Table One

CALCIUM ALGINATE

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	63	2017
10.2.1	Liquid egg products	GMP		2014
10.2.2	Frozen egg products	GMP		2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014

CALCIUM ASCORBATE

INS 302 Calcium ascorbate Functional Class: Antioxidant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.1.3	Peeled or cut fresh fruit	GMP		2014
06.4.2	Dried pastas and noodles and like products	200 mg/kg	256	2014
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.1.2	Fresh mollusks, crustaceans, and echinoderms	GMP	390, XS312 & XS315	2017
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	308, 392, XS36, XS92, XS95, XS165, XS190, XS191, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	139 & XS166	2017
13.1.2	Follow-up formulae	50 mg/kg	70, 72 & 315	2015
13.2	Complementary foods for infants and young children	200 mg/kg	239 & 317	2015
14.1.2.1	Fruit juice	GMP		2005
14.1.2.3	Concentrates for fruit juice	GMP	127	2005
14.1.3.1	Fruit nectar	GMP		2005
14.1.3.3	Concentrates for fruit nectar	GMP	127	2005

CALCIUM CARBONATE

INS 170(i) Calcium carbonate Functional Class: Acidity regulator, Anticaking agent, Colour, Firming agent, Flour treatment agent, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP		2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013

Table One

CALCIUM CARBONATE

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
01.8.2	Dried whey and whey products, excluding whey cheeses	10000 mg/kg		2006
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
06.4.1	Fresh pastas and noodles and like products	GMP		2013
06.4.2	Dried pastas and noodles and like products	GMP	256	2013
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	4, 16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	4, 16 & 281	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	95, XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	16 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2013
09.2.4	Cooked and/or fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP		2013
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS167, XS189, XS222, XS236, XS244 & XS311	2018
12.1.1	Salt	GMP		2006
12.1.2	Salt Substitutes	GMP		2013
12.2.1	Herbs and spices	GMP	534	2021
13.2	Complementary foods for infants and young children	GMP		2013
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2013

CALCIUM CHLORIDE

INS 509

Calcium chloride

Functional Class: Firming agent, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
01.8.2	Dried whey and whey products, excluding whey cheeses	GMP		2006
04.2.2.1	Frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	GMP	29, 323 & 324	2015

Table One

CALCIUM CHLORIDE

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP		2015
09.2.4.1	Cooked fish and fish products	GMP	241	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, XS167, XS189, XS222, XS236, XS244 & XS311	2018
12.1.2	Salt Substitutes	GMP	58	2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

CALCIUM DI-L-GLUTAMATE

INS 623 Calcium di-L-glutamate Functional Class: Flavour enhancer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
12.1.2	Salt Substitutes	GMP		2015

CALCIUM HYDROXIDE

INS 526 Calcium hydroxide Functional Class: Acidity regulator, Firming agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP		2013
01.8.2	Dried whey and whey products, excluding whey cheeses	GMP		2006
02.2.1	Butter	GMP		2008
13.1.1	Infant formulae	2000 mg/kg	55 & 72	2013
13.1.2	Follow-up formulae	GMP	72	2013
13.1.3	Formulae for special medical purposes for infants	2000 mg/kg	55 & 72	2013
13.2	Complementary foods for infants and young children	GMP	239	2013

CALCIUM LACTATE

INS 327 Calcium lactate Functional Class: Acidity regulator, Emulsifying salt, Firming agent, Flour treatment agent, Thickener

Table One

CALCIUM LACTATE

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP		2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	10000 mg/kg	58	2013
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2015
09.2.4	Cooked and/or fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP		2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	437, XS167, XS189, XS222, XS236, & XS244	2018
12.1.2	Salt Substitutes	GMP		2013
13.2	Complementary foods for infants and young children	GMP	83 & 239	2013
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2013

CALCIUM OXIDE

INS 529 Calcium oxide Functional Class: Acidity regulator, Flour treatment agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP		2013

CALCIUM PROPIONATE

INS 282 Calcium propionate Functional Class: Preservative

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.6.2.1	Ripened cheese, includes rind	GMP	3, 460, 503, XS208, XS269, XS274, XS276, XS277, XS278	2021
01.6.6	Whey protein cheese	3000 mg/kg	70	2006

CALCIUM SILICATE

INS 552 Calcium silicate Functional Class: Anticaking agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
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Table One

CALCIUM SILICATE

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.6.1	Unripened cheese	GMP	488, XS273, XS275	2021
01.6.2.1	Ripened cheese, includes rind	GMP	459, 461, 502, XS208, XS274, XS276, XS277	2021
01.8.2	Dried whey and whey products, excluding whey cheeses	10000 mg/kg		2006
11.1.2	Powdered sugar, powdered dextrose	15000 mg/kg	56, 465	2019
12.1.1	Salt	GMP		2006
12.1.2	Salt Substitutes	GMP		2015
12.2.1	Herbs and spices	GMP	534	2021

CALCIUM SULFATE

INS 516 Calcium sulfate Functional Class: Acidity regulator, Firming agent, Flour treatment agent, Sequestrant, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
04.2.2.1	Frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	GMP	29, 323 & 324	2015
06.2.1	Flours	GMP	57	2019
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
10.2.1	Liquid egg products	GMP		2015

CANDELILLA WAX

INS 902 Candelilla wax Functional Class: Carrier, Emulsifier, Glazing agent, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.1.2	Surface-treated fresh fruit	GMP		2003
04.2.1.2	Surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	GMP	79	2003
05.1.4	Cocoa and chocolate products	GMP	3	2001
05.1.5	Imitation chocolate, chocolate substitute products	GMP	3	2001
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	GMP	3 & XS309R	2017
05.3	Chewing gum	GMP		2003
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	GMP		2003
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	GMP	3	2001
13.6	Food supplements	GMP	3	2001

Table One

CANDELILLA WAX

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	200 mg/kg	131	2006
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	108	2001
15.0	Ready-to-eat savouries	GMP	3	2001

CANTHAXANTHIN

INS 161g

Canthaxanthin

Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	15 mg/kg	52 & 170	2011
01.6.1	Unripened cheese	15 mg/kg	201, XS221, XS273, XS275	2021
01.6.2	Ripened cheese	15 mg/kg	201, XS208, XS221, XS263, XS264, XS265, XS266, XS267, XS268, XS269, XS270, XS271, XS272, XS274, XS276, XS277, XS283	2021
01.6.4.2	Flavoured processed cheese, including containing fruit, vegetables, meat, etc.	15 mg/kg		2011
01.6.5	Cheese analogues	15 mg/kg		2011
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	15 mg/kg	170	2011
02.2.2	Fat spreads, dairy fat spreads and blended spreads	15 mg/kg	214 & 215	2011
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	15 mg/kg		2011
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	15 mg/kg		2011
04.1.2.5	Jams, jellies, marmelades	200 mg/kg	5	2011
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	15 mg/kg		2011
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	15 mg/kg		2011
04.1.2.11	Fruit fillings for pastries	15 mg/kg		2011
04.2.2.2	Dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	10 mg/kg		2011
06.4.2	Dried pastas and noodles and like products	15 mg/kg	211	2011
06.4.3	Pre-cooked pastas and noodles and like products	15 mg/kg	153 & XS249	2019
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	15 mg/kg		2011
08.3.1.1	Cured (including salted) non-heat treated processed comminuted meat, poultry, and game products	100 mg/kg	4, 16 & 118	2011

Table One

CANTHAXANTHIN

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	35 mg/kg	95, XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	15 mg/kg	22, XS167, XS189, XS222, XS236, XS244 & XS311	2018
09.3.3	Salmon substitutes, caviar, and other fish roe products	15 mg/kg	XS291	2018
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	15 mg/kg	XS3, XS37, XS70, XS90, XS94 & XS119	2018
10.1	Fresh eggs	GMP	4	2005
10.4	Egg-based desserts (e.g. custard)	15 mg/kg		2011
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	15 mg/kg		2011
12.2.2	Seasonings and condiments	20 mg/kg		2011
12.5.2	Mixes for soups and broths	30 mg/kg	XS117	2015
12.6	Sauces and like products	30 mg/kg	XS302	2018
14.1.4.1	Carbonated water-based flavoured drinks	5 mg/kg		2011
14.1.4.2	Non-carbonated water-based flavoured drinks, including punches and ades	5 mg/kg		2011
14.1.4.3	Concentrates (liquid or solid) for water-based flavoured drinks	5 mg/kg	127	2011
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	5 mg/kg		2011
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	5 mg/kg		2011
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	45 mg/kg		2011

CARAMEL I - PLAIN CARAMEL

INS 150a Caramel I – plain caramel Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2017
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160 & 201	2021

CARAMEL II - SULFITE CARAMEL

INS 150b Caramel II - sulfite caramel Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	2000 mg/kg	52 & 400	2017

Table One

CARAMEL II - SULFITE CARAMEL

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
02.2.2	Fat spreads, dairy fat spreads and blended spreads	500 mg/kg	528	2021
05.1.3	Cocoa-based spreads, including fillings	50000 mg/kg	XS86	2021
05.1.4	Cocoa and chocolate products	50000 mg/kg	183	2021
05.1.5	Imitation chocolate, chocolate substitute products	50000 mg/kg		2021
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	50000 mg/kg		2019
05.3	Chewing gum	20000 mg/kg		2019
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	50000 mg/kg		2019
06.4.3	Pre-cooked pastas and noodles and like products	50000 mg/kg	194	2019
13.6	Food supplements	7500 mg/kg		2021
14.2.1	Beer and malt beverages	50000 mg/kg		2021
14.2.2	Cider and perry	1000 mg/kg		2021
14.2.4	Wines (other than grape)	1000 mg/kg		2021
14.2.5	Mead	5000 mg/kg		2021
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	5000 mg/kg		2021
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	4000 mg/kg		2021

CARAMEL III - AMMONIA CARAMEL

INS 150c Caramel III - ammonia caramel Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	2000 mg/kg	52	2009
01.3.2	Beverage whiteners	1000 mg/kg	XS250 & XS252	2021
01.4.4	Cream analogues	5000 mg/kg		2010
01.5.2	Milk and cream powder analogues	5000 mg/kg	XS251	2021
01.6.1	Unripened cheese	15000 mg/kg	201, XS221, XS273, XS275	2021
01.6.2.2	Rind of ripened cheese	50000 mg/kg		2010
01.6.4.2	Flavoured processed cheese, including containing fruit, vegetables, meat, etc.	50000 mg/kg		2010
01.6.5	Cheese analogues	50000 mg/kg		2010
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	2000 mg/kg		1999
02.2.2	Fat spreads, dairy fat spreads and blended spreads	500 mg/kg		2010
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	20000 mg/kg		2010
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	20000 mg/kg		2010
03.0	Edible ices, including sherbet and sorbet	1000 mg/kg		1999

Table One

CARAMEL III - AMMONIA CARAMEL

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.2.3	Fruit in vinegar, oil, or brine	200 mg/kg		2010
04.1.2.4	Canned or bottled (pasteurized) fruit	200 mg/kg	267	2018
04.1.2.5	Jams, jellies, marmelades	200 mg/kg		2010
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	500 mg/kg		1999
04.1.2.7	Candied fruit	200 mg/kg		2010
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	7500 mg/kg	182	2008
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	200 mg/kg		2010
04.1.2.11	Fruit fillings for pastries	7500 mg/kg		1999
04.2.2.2	Dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	50000 mg/kg	76 & 161	2010
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	500 mg/kg		1999
04.2.2.4	Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	50000 mg/kg	161	2010
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	50000 mg/kg		2010
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	50000 mg/kg	161	2010
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	50000 mg/kg	161	2010
04.2.2.8	Cooked or fried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	50000 mg/kg	161	2010
05.1.2	Cocoa mixes (syrups)	50000 mg/kg		2010
05.1.3	Cocoa-based spreads, including fillings	50000 mg/kg	XS86	2016
05.1.4	Cocoa and chocolate products	50000 mg/kg	183	2016
05.1.5	Imitation chocolate, chocolate substitute products	50000 mg/kg		2009
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	50000 mg/kg	XS309R	2017
05.3	Chewing gum	20000 mg/kg		1999
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	50000 mg/kg		2012
06.3	Breakfast cereals, including rolled oats	50000 mg/kg	189	2009
06.4.3	Pre-cooked pastas and noodles and like products	50000 mg/kg	153 & 173	2010
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	50000 mg/kg		2009

Table One

CAMEL III - AMMONIA CAMEL

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
06.6	Batters (e.g. for breading or batters for fish or poultry)	50000 mg/kg		2009
06.7	Pre-cooked or processed rice products, including rice cakes (Oriental type only)	50000 mg/kg		2009
06.8.1	Soybean-based beverages	1500 mg/kg		2010
06.8.8	Other soybean protein products	20000 mg/kg	XS175	2019
07.1.2	Crackers, excluding sweet crackers	50000 mg/kg	161	2009
07.1.3	Other ordinary bakery products (e.g. bagels, pita, English muffins)	50000 mg/kg	161	2009
07.1.4	Bread-type products, including bread stuffing and bread crumbs	50000 mg/kg	161	2009
07.1.5	Steamed breads and buns	50000 mg/kg	161	2009
07.1.6	Mixes for bread and ordinary bakery wares	50000 mg/kg	161	2010
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	50000 mg/kg	161	2009
08.0	Meat and meat products, including poultry and game	GMP	3, 4, 16, XS88, XS89, XS96, XS97 & XS98	2014
09.1	Fresh fish and fish products, including mollusks, crustaceans, and echinoderms	30000 mg/kg	4, 16, XS292, XS312 & XS315	2017
09.2	Processed fish and fish products, including mollusks, crustaceans, and echinoderms	30000 mg/kg	XS36, XS92, XS95, XS165, XS166, XS167, XS189, XS190, XS191, XS222, XS236, XS244, XS292, XS311, XS312 & XS315	2018
09.3	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms	30000 mg/kg	95 & XS291	2018
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	500 mg/kg	50, XS3, XS37, XS70, XS90, XS94 & XS119	2018
10.1	Fresh eggs	20000 mg/kg	4	2010
10.3	Preserved eggs, including alkaline, salted, and canned eggs	20000 mg/kg	4	2010
10.4	Egg-based desserts (e.g. custard)	20000 mg/kg		2010
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	50000 mg/kg	100	2010
12.2.2	Seasonings and condiments	50000 mg/kg		2010
12.3	Vinegars	1000 mg/kg	78	2010
12.4	Mustards	50000 mg/kg		2010
12.5	Soups and broths	25000 mg/kg		2010
12.6	Sauces and like products	50000 mg/kg		2010
12.7	Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	50000 mg/kg	89	2012
12.9.2.1	Fermented soybean sauce	20000 mg/kg	207	2011
12.9.2.2	Non-fermented soybean sauce	1500 mg/kg		2011

Table One

CARAMEL III - AMMONIA CARAMEL

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
12.9.2.3	Other soybean sauces	20000 mg/kg		2011
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	20000 mg/kg		2010
13.4	Dietetic formulae for slimming purposes and weight reduction	20000 mg/kg		2010
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	20000 mg/kg		2010
13.6	Food supplements	20000 mg/kg		2010
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	5000 mg/kg	9	2010
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	10000 mg/kg	7 & 160	2010
14.2.1	Beer and malt beverages	50000 mg/kg		2010
14.2.2	Cider and perry	1000 mg/kg		2010
14.2.3.3	Fortified grape wine, grape liquor wine, and sweet grape wine	50000 mg/kg		2010
14.2.4	Wines (other than grape)	1000 mg/kg		2010
14.2.5	Mead	1000 mg/kg		2010
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	50000 mg/kg		2010
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	50000 mg/kg		2010
15.0	Ready-to-eat savouries	10000 mg/kg		2009

CARAMEL IV - SULFITE AMMONIA CARAMEL

INS 150d Caramel IV - sulfite ammonia Functional Class: Colour
caramel

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	2000 mg/kg	52	2011
01.2.1	Fermented milks (plain)	150 mg/kg	12	1999
01.2.2	Renneted milk (plain)	GMP		1999
01.3.2	Beverage whiteners	1000 mg/kg	XS250 & XS252	2021
01.4.4	Cream analogues	5000 mg/kg		2009
01.5.2	Milk and cream powder analogues	5000 mg/kg	XS251	2021
01.6.1	Unripened cheese	50000 mg/kg	201, XS221, XS273, XS275	2021
01.6.2.1	Ripened cheese, includes rind	50000 mg/kg	201, XS208, XS263, XS264, XS265, XS266, XS267, XS268, XS269, XS270, XS271, XS272, XS274, XS276, XS277, XS278	2021
01.6.2.2	Rind of ripened cheese	50000 mg/kg		2011

Table One

CARAMEL IV - SULFITE AMMONIA CARMEL

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.6.4.2	Flavoured processed cheese, including containing fruit, vegetables, meat, etc.	50000 mg/kg	72	2011
01.6.5	Cheese analogues	50000 mg/kg	201	2011
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	2000 mg/kg		1999
02.2.2	Fat spreads, dairy fat spreads and blended spreads	500 mg/kg	214	2011
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	20000 mg/kg		2009
03.0	Edible ices, including sherbet and sorbet	1000 mg/kg		1999
04.1.2.3	Fruit in vinegar, oil, or brine	7500 mg/kg		2011
04.1.2.4	Canned or bottled (pasteurized) fruit	7500 mg/kg	267	2018
04.1.2.5	Jams, jellies, marmelades	1500 mg/kg		1999
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	500 mg/kg		1999
04.1.2.7	Candied fruit	7500 mg/kg		2011
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	7500 mg/kg	182	2008
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	7500 mg/kg		2011
04.1.2.11	Fruit fillings for pastries	7500 mg/kg		1999
04.2.2	Processed vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	50000 mg/kg	92 & 161	2009
05.1.2	Cocoa mixes (syrups)	50000 mg/kg		2012
05.1.3	Cocoa-based spreads, including fillings	50000 mg/kg	XS86	2016
05.1.4	Cocoa and chocolate products	50000 mg/kg	183	2016
05.1.5	Imitation chocolate, chocolate substitute products	50000 mg/kg		2012
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	50000 mg/kg	XS309R	2017
05.3	Chewing gum	20000 mg/kg		1999
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	50000 mg/kg		2012
06.3	Breakfast cereals, including rolled oats	2500 mg/kg		1999
06.4.2	Dried pastas and noodles and like products	50000 mg/kg	211	2011
06.4.3	Pre-cooked pastas and noodles and like products	50000 mg/kg	153	2011
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	2500 mg/kg		2011
06.6	Batters (e.g. for breading or batters for fish or poultry)	2500 mg/kg		2011
06.7	Pre-cooked or processed rice products, including rice cakes (Oriental type only)	2500 mg/kg		2011
06.8.8	Other soybean protein products	20000 mg/kg	XS175	2019
07.1.2	Crackers, excluding sweet crackers	50000 mg/kg	161	2010
07.1.3	Other ordinary bakery products (e.g. bagels, pita, English muffins)	50000 mg/kg	161	2010

Table One

CAMEL IV - SULFITE AMMONIA CAMEL

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	1200 mg/kg		2011
08.0	Meat and meat products, including poultry and game	GMP	3, 4, 16, XS88, XS89, XS96, XS97 & XS98	2014
09.2	Processed fish and fish products, including mollusks, crustaceans, and echinoderms	30000 mg/kg	95, XS36, XS92, XS95, XS165, XS166, XS167, XS189, XS190, XS191, XS222, XS236, XS244, XS292, XS311, XS312 & XS315	2018
09.3	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms	30000 mg/kg	95 & XS291	2018
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	30000 mg/kg	95, XS3, XS37, XS70, XS90, XS94 & XS119	2018
10.1	Fresh eggs	20000 mg/kg	4	2010
10.2	Egg products	20000 mg/kg	161	2009
10.3	Preserved eggs, including alkaline, salted, and canned eggs	20000 mg/kg		2009
10.4	Egg-based desserts (e.g. custard)	20000 mg/kg		2009
11.6	Table-top sweeteners, including those containing high-intensity sweeteners	1200 mg/kg	213	2011
12.2	Herbs, spices, seasonings and condiments (e.g. seasoning for instant noodles)	10000 mg/kg	XS326, XS327, XS328	2021
12.3	Vinegars	50000 mg/kg		2011
12.4	Mustards	50000 mg/kg		2011
12.5	Soups and broths	25000 mg/kg	212	2011
12.6	Sauces and like products	30000 mg/kg	XS302	2018
12.7	Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	50000 mg/kg		2011
12.9.2.1	Fermented soybean sauce	60000 mg/kg		2011
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	20000 mg/kg		2009
13.4	Dietetic formulae for slimming purposes and weight reduction	20000 mg/kg		2009
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	20000 mg/kg		2009
13.6	Food supplements	20000 mg/kg		2009
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	50000 mg/kg		2009
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	10000 mg/kg	7 & 127	2011
14.2.1	Beer and malt beverages	50000 mg/kg		2011
14.2.2	Cider and perry	1000 mg/kg		2009
14.2.3.3	Fortified grape wine, grape liquor wine, and sweet grape wine	50000 mg/kg		2011

Table One

CARAMEL IV - SULFITE AMMONIA CARAMEL

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.2.4	Wines (other than grape)	1000 mg/kg		2009
14.2.5	Mead	1000 mg/kg		2009
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	50000 mg/kg		2011
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	50000 mg/kg		2011
15.0	Ready-to-eat savouries	10000 mg/kg		2009

CARBOHYDRASE FROM BACILLUS LICHENIFORMIS

INS 1100(vi) Carbohydrase from Bacillus licheniformis Functional Class: Flour treatment agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
06.2	Flours and starches (including soybean powder)	GMP	XS152	2019

CARBON DIOXIDE

INS 290 Carbon dioxide Functional Class: Carbonating agent, Foaming agent, Packaging gas, Preservative, Propellant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	59	2014
01.2.2	Renneted milk (plain)	GMP	59	2014
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP	59 & 278	2014
04.1.1.3	Peeled or cut fresh fruit	GMP	59	2014
06.4.1	Fresh pastas and noodles and like products	GMP	59 & 211	2014
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	59, 382, XS167, XS189, XS222, XS236 & XS244	2018
13.1.1	Infant formulae	GMP	59	2015
13.1.3	Formulae for special medical purposes for infants	GMP	59	2015
13.2	Complementary foods for infants and young children	GMP	59	2015
14.1.1.1	Natural mineral waters and source waters	GMP	466	2019
14.1.1.2	Table waters and soda waters	GMP	466	2019
14.1.2.1	Fruit juice	GMP	69	2005
14.1.2.3	Concentrates for fruit juice	GMP	69 & 127	2005
14.1.3.1	Fruit nectar	GMP	69	2005
14.1.3.3	Concentrates for fruit nectar	GMP	69 & 127	2005
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	59 & 160	2015
14.2.3	Grape wines	GMP	60	2015

CARBON DIOXIDE

CARMINES

INS 120 Carmines Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	150 mg/kg	52 & 178	2008
01.6.2.1	Ripened cheese, includes rind	125 mg/kg	178, 505, XS208, XS263, XS264, XS265, XS266, XS267, XS268, XS269, XS270, XS271, XS272, XS274, XS276, XS277, XS278	2021
01.6.4.2	Flavoured processed cheese, including containing fruit, vegetables, meat, etc.	100 mg/kg	178	2005
01.6.5	Cheese analogues	100 mg/kg	3 & 178	2008
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	150 mg/kg	178	2005
02.2.2	Fat spreads, dairy fat spreads and blended spreads	500 mg/kg	161 & 178	2008
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	500 mg/kg	161 & 178	2008
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	150 mg/kg	178	2005
03.0	Edible ices, including sherbet and sorbet	150 mg/kg	178	2005
04.1.1.2	Surface-treated fresh fruit	500 mg/kg	4, 16 & 178	2008
04.1.2.4	Canned or bottled (pasteurized) fruit	200 mg/kg	104 & 178	2018
04.1.2.5	Jams, jellies, marmelades	200 mg/kg	178	2005
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	500 mg/kg	178	2005
04.1.2.7	Candied fruit	200 mg/kg	178	2005
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	500 mg/kg	178 & 182	2008
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	150 mg/kg	178	2005
04.1.2.11	Fruit fillings for pastries	300 mg/kg	178	2005
04.2.1.2	Surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	500 mg/kg	4, 16 & 178	2008
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	500 mg/kg	161 & 178	2008
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	100 mg/kg	178	2005
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	200 mg/kg	92 & 178	2008

Table One

CARMINES

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
05.1.2	Cocoa mixes (syrups)	300 mg/kg	178	2005
05.1.5	Imitation chocolate, chocolate substitute products	300 mg/kg	178	2005
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	300 mg/kg	178 & XS309R	2017
05.3	Chewing gum	500 mg/kg	178	2008
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	500 mg/kg	178	2005
06.3	Breakfast cereals, including rolled oats	200 mg/kg	178	2005
06.4.3	Pre-cooked pastas and noodles and like products	100 mg/kg	153 & 178	2008
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	150 mg/kg	178	2005
06.6	Batters (e.g. for breading or batters for fish or poultry)	500 mg/kg	178	2005
06.8.1	Soybean-based beverages	100 mg/kg	178	2010
07.1.2	Crackers, excluding sweet crackers	200 mg/kg	178	2008
07.1.4	Bread-type products, including bread stuffing and bread crumbs	500 mg/kg	178	2008
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	200 mg/kg	178	2005
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	500 mg/kg	4, 16 & 178	2008
08.1.2	Fresh meat, poultry, and game, comminuted	100 mg/kg	4, 16, 117 & 178	2008
08.2	Processed meat, poultry, and game products in whole pieces or cuts	500 mg/kg	16, 178, XS96 & XS97	2014
08.3.1.1	Cured (including salted) non-heat treated processed comminuted meat, poultry, and game products	200 mg/kg	118 & 178	2005
08.3.1.2	Cured (including salted) and dried non-heat treated processed comminuted meat, poultry, and game products	100 mg/kg	178	2005
08.3.1.3	Fermented non-heat treated processed comminuted meat, poultry, and game products	100 mg/kg	178	2005
08.3.2	Heat-treated processed comminuted meat, poultry, and game products	100 mg/kg	178, XS88, XS89 & XS98	2014
08.3.3	Frozen processed comminuted meat, poultry, and game products	500 mg/kg	16 & 178	2005
08.4	Edible casings (e.g. sausage casings)	500 mg/kg	16 & 178	2005
09.1.1	Fresh fish	300 mg/kg	4, 16, 50 & 178	2008
09.1.2	Fresh mollusks, crustaceans, and echinoderms	500 mg/kg	4, 16, 178, XS292, XS312 & XS315	2017
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	100 mg/kg	95, 178, XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	500 mg/kg	16, 95, 178, & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	500 mg/kg	16 & 178	2005
09.2.4.1	Cooked fish and fish products	500 mg/kg	178	2005
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	250 mg/kg	178	2005

Table One

CARMINES

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	500 mg/kg	16, 95 & 178	2008
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	300 mg/kg	22, 178, XS167, XS189, XS222, XS236, XS244 & XS311	2018
09.3.1	Fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly	500 mg/kg	16 & 178	2005
09.3.2	Fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine	500 mg/kg	16 & 178	2005
09.3.3	Salmon substitutes, caviar, and other fish roe products	500 mg/kg	178 & XS291	2018
09.3.4	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g. fish paste), excluding products of food categories 09.3.1 - 09.3.3	100 mg/kg	178	2005
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	500 mg/kg	16, 178, XS3, XS37, XS70, XS90, XS94 & XS119	2018
10.1	Fresh eggs	GMP	4 & 178	2005
10.4	Egg-based desserts (e.g. custard)	150 mg/kg	178	2005
12.2.2	Seasonings and condiments	500 mg/kg	178	2005
12.4	Mustards	300 mg/kg	178	2005
12.5	Soups and broths	50 mg/kg	178	2005
12.6	Sauces and like products	500 mg/kg	178 & XS302	2018
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	50 mg/kg	178	2005
13.4	Dietetic formulae for slimming purposes and weight reduction	50 mg/kg	178	2005
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	300 mg/kg	178	2005
13.6	Food supplements	300 mg/kg	178	2005
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	100 mg/kg	178	2008
14.2.1	Beer and malt beverages	100 mg/kg	178	2005
14.2.2	Cider and perry	200 mg/kg	178	2005
14.2.4	Wines (other than grape)	200 mg/kg	178	2005
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	200 mg/kg	178	2005
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	200 mg/kg	178	2008
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	200 mg/kg	178	2005
15.2	Processed nuts, including coated nuts and nut mixtures (with e.g. dried fruit)	100 mg/kg	178	2005
15.3	Snacks - fish based	200 mg/kg	178	2009

CARNAUBA WAX

CARNAUBA WAX

INS 903 Carnauba wax

Functional Class: Acidity regulator, Anticaking agent, Bulking agent,
Carrier, Glazing agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.1.2	Surface-treated fresh fruit	400 mg/kg		2004
04.1.2	Processed fruit	400 mg/kg		2004
04.2.1.2	Surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	400 mg/kg	79	2004
05.1.4	Cocoa and chocolate products	5000 mg/kg	3 & XS87	2017
05.1.5	Imitation chocolate, chocolate substitute products	5000 mg/kg	3	2006
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	5000 mg/kg	3 & XS309R	2017
05.3	Chewing gum	1200 mg/kg	3	2003
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	4000 mg/kg		2001
07.0	Bakery wares	GMP	3	2001
13.6	Food supplements	5000 mg/kg	3	2006
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	200 mg/kg	131	2003
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	200 mg/kg	108	2006
15.0	Ready-to-eat savouries	200 mg/kg	3	2006

CAROB BEAN GUM

INS 410 Carob bean gum

Functional Class: Emulsifier, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	407 & 438	2019
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
06.4.1	Fresh pastas and noodles and like products	GMP	211	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	391, XS36, XS92, XS95, XS190, XS191, XS292, XS312 & XS315	2017

Table One

CAROB BEAN GUM

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	177	2014
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP		2014
09.2.4.1	Cooked fish and fish products	GMP	241	2014
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2014
10.2.1	Liquid egg products	GMP		2014
10.2.2	Frozen egg products	GMP		2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
13.1.1	Infant formulae	1000 mg/kg	72	2014
13.1.2	Follow-up formulae	1000 mg/kg	72	2014
13.1.3	Formulae for special medical purposes for infants	1000 mg/kg	72	2014
13.2	Complementary foods for infants and young children	2000 mg/kg	271 & 272	2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

CAROTENES, BETA-, VEGETABLE

INS 160a(ii) beta-Carotenes, vegetable Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	1000 mg/kg	52 & 401	2017
01.3.2	Beverage whiteners	1000 mg/kg	XS250 & XS252	2021
01.4.4	Cream analogues	20 mg/kg		2011
01.5.2	Milk and cream powder analogues	1000 mg/kg	XS251	2021
01.6.1	Unripened cheese	600 mg/kg		2005
01.6.2.1	Ripened cheese, includes rind	600 mg/kg	463, XS208, XS278	2021
01.6.2.2	Rind of ripened cheese	1000 mg/kg		2005
01.6.2.3	Cheese powder (for reconstitution; e.g. for cheese sauces)	1000 mg/kg		2005
01.6.4	Processed cheese	1000 mg/kg		2005
01.6.5	Cheese analogues	1000 mg/kg	3	2005
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	1000 mg/kg		2005
02.1.2	Vegetable oils and fats	1000 mg/kg	509, 517, XS33, XS210	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	1000 mg/kg	518, XS329	2021
02.2.1	Butter	600 mg/kg		2008
02.2.2	Fat spreads, dairy fat spreads and blended spreads	1000 mg/kg		2005
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	1000 mg/kg		2005

Table One

CAROTENES, BETA-, VEGETABLE

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	1000 mg/kg		2005
03.0	Edible ices, including sherbet and sorbet	1000 mg/kg		2005
04.1.2.3	Fruit in vinegar, oil, or brine	1000 mg/kg		2005
04.1.2.4	Canned or bottled (pasteurized) fruit	1000 mg/kg	104	2018
04.1.2.5	Jams, jellies, marmelades	1000 mg/kg		2005
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	500 mg/kg		2005
04.1.2.7	Candied fruit	1000 mg/kg		2005
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	100 mg/kg	182	2011
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	1000 mg/kg		2005
04.1.2.10	Fermented fruit products	200 mg/kg		2005
04.1.2.11	Fruit fillings for pastries	100 mg/kg		2009
04.2.2.2	Dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	200 mg/kg		2011
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	1320 mg/kg		2011
04.2.2.4	Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	200 mg/kg		2011
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	1000 mg/kg		2005
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	1000 mg/kg	92	2008
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	1000 mg/kg		2005
05.1.3	Cocoa-based spreads, including fillings	100 mg/kg	XS86	2016
05.1.4	Cocoa and chocolate products	100 mg/kg	183	2016
05.1.5	Imitation chocolate, chocolate substitute products	100 mg/kg		2010
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	500 mg/kg	XS309R	2017
05.3	Chewing gum	500 mg/kg		2005
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	20000 mg/kg		2005
06.3	Breakfast cereals, including rolled oats	400 mg/kg		2005
06.4.2	Dried pastas and noodles and like products	1000 mg/kg	211	2011
06.4.3	Pre-cooked pastas and noodles and like products	1000 mg/kg	153	2010

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CAROTENES, BETA-, VEGETABLE

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	1000 mg/kg		2005
06.6	Batters (e.g. for breading or batters for fish or poultry)	1000 mg/kg		2005
07.1.2	Crackers, excluding sweet crackers	1000 mg/kg		2005
07.1.4	Bread-type products, including bread stuffing and bread crumbs	1000 mg/kg		2005
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	1000 mg/kg		2005
08.1.2	Fresh meat, poultry, and game, comminuted	20 mg/kg	4 & 16	2011
08.2	Processed meat, poultry, and game products in whole pieces or cuts	5000 mg/kg	16, XS96 & XS97	2014
08.3.1	Non-heat treated processed comminuted meat, poultry, and game products	20 mg/kg	118	2005
08.3.2	Heat-treated processed comminuted meat, poultry, and game products	20 mg/kg	XS88, XS89 & XS98	2014
08.3.3	Frozen processed comminuted meat, poultry, and game products	5000 mg/kg	16	2005
08.4	Edible casings (e.g. sausage casings)	5000 mg/kg		2005
09.1.1	Fresh fish	100 mg/kg	4, 16 & 50	2010
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	100 mg/kg	304	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	1000 mg/kg	16	2005
09.2.4.1	Cooked fish and fish products	1000 mg/kg	95	2009
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	1000 mg/kg		2005
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	1000 mg/kg	16	2005
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	1000 mg/kg	XS167, XS189, XS222, XS236, XS244 & XS311	2018
09.3.1	Fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly	1000 mg/kg	16	2005
09.3.2	Fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine	1000 mg/kg	16	2005
09.3.3	Salmon substitutes, caviar, and other fish roe products	1000 mg/kg	XS291	2018
09.3.4	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g. fish paste), excluding products of food categories 09.3.1 - 09.3.3	1000 mg/kg	16	2005
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	500 mg/kg	XS3, XS37, XS70, XS90, XS94 & XS119	2018
10.1	Fresh eggs	1000 mg/kg	4	2005
10.2	Egg products	1000 mg/kg		2005
10.4	Egg-based desserts (e.g. custard)	150 mg/kg		2005
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	50 mg/kg		2005
12.2.2	Seasonings and condiments	500 mg/kg		2011
12.4	Mustards	1000 mg/kg		2005

Table One

CAROTENES, BETA-, VEGETABLE

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
12.5	Soups and broths	1000 mg/kg	341	2015
12.6.1	Emulsified sauces and dips (e.g. mayonnaise, salad dressing, onion dip)	2000 mg/kg		2005
12.6.2	Non-emulsified sauces (e.g. ketchup, cheese sauce, cream sauce, brown gravy)	2000 mg/kg		2005
12.6.3	Mixes for sauces and gravies	2000 mg/kg		2005
12.7	Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	1000 mg/kg		2005
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	600 mg/kg		2005
13.4	Dietetic formulae for slimming purposes and weight reduction	600 mg/kg		2005
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	600 mg/kg		2005
13.6	Food supplements	600 mg/kg		2005
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	2000 mg/kg		2005
14.2.1	Beer and malt beverages	600 mg/kg		2005
14.2.2	Cider and perry	600 mg/kg		2005
14.2.4	Wines (other than grape)	600 mg/kg		2005
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	600 mg/kg		2005
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	600 mg/kg		2005
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	100 mg/kg		2009
15.2	Processed nuts, including coated nuts and nut mixtures (with e.g. dried fruit)	20000 mg/kg	3	2011
15.3	Snacks - fish based	100 mg/kg		2010

CAROTENOIDS

INS 160a(i)	beta-Carotenes, synthetic	Functional Class: Colour
INS 160a(iii)	beta-Carotenes, Blakeslea trispora	Functional Class: Colour
INS 160e	Carotenal, beta-apo-8'-	Functional Class: Colour
INS 160f	Carotenoic acid, ethyl ester, beta-apo-8'-	Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	150 mg/kg	52 & 402	2017
01.3.2	Beverage whiteners	100 mg/kg	XS250 & XS252	2021
01.4.4	Cream analogues	20 mg/kg		2011
01.5.2	Milk and cream powder analogues	100 mg/kg	XS251	2021
01.6.1	Unripened cheese	100 mg/kg	489, 490, XS273	2021

Table One

CAROTENOIDS

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.6.2.1	Ripened cheese, includes rind	100 mg/kg	458, 500, XS208, XS278	2021
01.6.2.2	Rind of ripened cheese	500 mg/kg		2009
01.6.2.3	Cheese powder (for reconstitution; e.g. for cheese sauces)	100 mg/kg		2009
01.6.4	Processed cheese	100 mg/kg		2009
01.6.5	Cheese analogues	200 mg/kg		2009
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	100 mg/kg		2009
02.1.2	Vegetable oils and fats	25 mg/kg	509, 508, XS33, XS210	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	25 mg/kg	512, XS329	2021
02.2.1	Butter	25 mg/kg	146 & 291	2008
02.2.2	Fat spreads, dairy fat spreads and blended spreads	35 mg/kg		2010
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	200 mg/kg		2009
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	150 mg/kg		2009
03.0	Edible ices, including sherbet and sorbet	200 mg/kg		2009
04.1.2.3	Fruit in vinegar, oil, or brine	1000 mg/kg		2009
04.1.2.4	Canned or bottled (pasteurized) fruit	200 mg/kg	161 & 104	2018
04.1.2.5	Jams, jellies, marmelades	200 mg/kg		2009
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	500 mg/kg		2009
04.1.2.7	Candied fruit	200 mg/kg		2009
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	100 mg/kg	161 & 182	2009
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	150 mg/kg		2009
04.1.2.10	Fermented fruit products	500 mg/kg		2009
04.1.2.11	Fruit fillings for pastries	100 mg/kg		2009
04.2.1.2	Surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	500 mg/kg	4, 16 & 161	2010
04.2.2.2	Dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	1000 mg/kg	161	2009
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	50 mg/kg	161	2010
04.2.2.4	Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	50 mg/kg	161	2010
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	50 mg/kg	161	2010

Table One

CAROTENOIDS

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	50 mg/kg	92 & 161	2010
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	50 mg/kg		2009
05.1.3	Cocoa-based spreads, including fillings	100 mg/kg	161 & XS86	2016
05.1.4	Cocoa and chocolate products	100 mg/kg	183	2016
05.1.5	Imitation chocolate, chocolate substitute products	100 mg/kg		2009
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	100 mg/kg	XS309R	2017
05.3	Chewing gum	100 mg/kg		2009
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	100 mg/kg		2009
06.3	Breakfast cereals, including rolled oats	200 mg/kg		2009
06.4.3	Pre-cooked pastas and noodles and like products	1200 mg/kg	153, 474	2019
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	150 mg/kg		2009
06.6	Batters (e.g. for breading or batters for fish or poultry)	500 mg/kg		2009
07.1.2	Crackers, excluding sweet crackers	1000 mg/kg		2009
07.1.3	Other ordinary bakery products (e.g. bagels, pita, English muffins)	100 mg/kg		2011
07.1.4	Bread-type products, including bread stuffing and bread crumbs	200 mg/kg	116	2011
07.1.5	Steamed breads and buns	100 mg/kg	216	2011
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	100 mg/kg		2009
08.1.2	Fresh meat, poultry, and game, comminuted	100 mg/kg	4 & 16	2011
08.3.1.1	Cured (including salted) non-heat treated processed comminuted meat, poultry, and game products	100 mg/kg	16	2010
08.3.1.2	Cured (including salted) and dried non-heat treated processed comminuted meat, poultry, and game products	20 mg/kg	16	2010
08.3.1.3	Fermented non-heat treated processed comminuted meat, poultry, and game products	20 mg/kg	16	2010
08.3.2	Heat-treated processed comminuted meat, poultry, and game products	20 mg/kg	16, XS88, XS89 & XS98	2014
08.4	Edible casings (e.g. sausage casings)	100 mg/kg		2011
09.1.1	Fresh fish	300 mg/kg	4	2011
09.1.2	Fresh mollusks, crustaceans, and echinoderms	100 mg/kg	4, 16, XS292, XS312 & XS315	2017

Table One

CAROTENOIDS

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2	Processed fish and fish products, including mollusks, crustaceans, and echinoderms	100 mg/kg	95, 304, XS36, XS92, XS95, XS165, XS167, XS189, XS190, XS191, XS222, XS236, XS244, XS292, XS311, XS312 & XS315	2018
09.3	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms	100 mg/kg	95 & XS291	2018
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	100 mg/kg	95, XS3, XS37, XS70, XS90, XS94 & XS119	2018
10.1	Fresh eggs	1000 mg/kg	4	2011
10.4	Egg-based desserts (e.g. custard)	150 mg/kg		2009
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	50 mg/kg	217	2011
12.2.2	Seasonings and condiments	500 mg/kg		2009
12.4	Mustards	300 mg/kg		2009
12.5	Soups and broths	300 mg/kg	341	2015
12.6	Sauces and like products	500 mg/kg	XS302	2018
12.7	Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	50 mg/kg		2009
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	50 mg/kg		2009
13.4	Dietetic formulae for slimming purposes and weight reduction	50 mg/kg		2009
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	300 mg/kg		2009
13.6	Food supplements	300 mg/kg		2009
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	100 mg/kg		2009
14.2.2	Cider and perry	200 mg/kg		2009
14.2.4	Wines (other than grape)	200 mg/kg		2009
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	200 mg/kg		2009
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	200 mg/kg		2009
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	100 mg/kg		2010
15.2	Processed nuts, including coated nuts and nut mixtures (with e.g. dried fruit)	100 mg/kg		2009

CARRAGEENAN

INS 407 Carrageenan

Functional Class: Bulking agent, Carrier, Emulsifier, Gelling agent, Glazing agent, Humectant, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
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Table One

CARRAGEENAN

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	407 & 438	2019
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2015
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2015
01.2.2	Renneted milk (plain)	GMP		2015
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
04.1.1.2	Surface-treated fresh fruit	GMP	454	2021
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
06.4.1	Fresh pastas and noodles and like products	GMP	211	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2015
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	332, 391, XS36, XS92, XS95, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	177 & 332	2015
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP		2014
09.2.4.1	Cooked fish and fish products	GMP	16 & 325	2015
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	GMP	16 & 325	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41, 325 & 332	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, 332, XS167, XS189, XS222, XS236, XS244 & XS311	2018
10.2.1	Liquid egg products	GMP		2014
10.2.2	Frozen egg products	GMP		2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
13.1.1	Infant formulae	300mg/kg	378 & 381	2016
13.1.2	Follow-up formulae	300mg/kg	72,151, 328 & 329	2015
13.1.3	Formulae for special medical purposes for infants	1000mg/kg	379 & 381	2016
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

CASTOR OIL

CASTOR OIL

INS 1503 Castor oil

Functional Class: Anticaking agent, Carrier, Emulsifier, Glazing agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
05.1.4	Cocoa and chocolate products	350 mg/kg	XS87	2017
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	500 mg/kg	XS309R	2017
05.3	Chewing gum	2100 mg/kg		2007
13.6	Food supplements	1000 mg/kg		2007

CHLORINE

INS 925 Chlorine

Functional Class: Flour treatment agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
06.2.1	Flours	2500 mg/kg	87, 471	2019

CHLOROPHYLLS AND CHLOROPHYLLINS, COPPER COMPLEXES

INS 141(i) Chlorophylls, copper complexes Functional Class: Colour

INS 141(ii) Chlorophyllin copper complexes, potassium and sodium salts Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	50 mg/kg	52 & 190	2009
01.6.1	Unripened cheese	50 mg/kg	161, 484, XS273, XS275	2021
01.6.2.1	Ripened cheese, includes rind	15 mg/kg	62, XS208, XS263, XS264, XS265, XS266, XS267, XS268, XS269, XS270, XS271, XS272, XS274, XS276, XS277	2021
01.6.2.2	Rind of ripened cheese	75 mg/kg		2009
01.6.2.3	Cheese powder (for reconstitution; e.g. for cheese sauces)	50 mg/kg		2009
01.6.4.2	Flavoured processed cheese, including containing fruit, vegetables, meat, etc.	50 mg/kg		2009
01.6.5	Cheese analogues	50 mg/kg		2009
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	500 mg/kg		2009
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	500 mg/kg		2009
03.0	Edible ices, including sherbet and sorbet	500 mg/kg		2009
04.1.2.3	Fruit in vinegar, oil, or brine	100 mg/kg	62	2005

Table One

CHLOROPHYLLS AND CHLOROPHYLLINS, COPPER COMPLEXES

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.2.4	Canned or bottled (pasteurized) fruit	100 mg/kg	62 & 267	2018
04.1.2.5	Jams, jellies, marmelades	200 mg/kg	161	2009
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	150 mg/kg		2009
04.1.2.7	Candied fruit	250 mg/kg		2009
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	100 mg/kg	62 & 182	2008
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	150 mg/kg		2009
04.1.2.10	Fermented fruit products	100 mg/kg	62	2005
04.1.2.11	Fruit fillings for pastries	100 mg/kg	62	2005
04.1.2.12	Cooked fruit	100 mg/kg	62	2005
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	100 mg/kg	62	2005
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	100 mg/kg	62 & 92	2008
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	100 mg/kg	62	2005
04.2.2.8	Cooked or fried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	100 mg/kg	62	2005
05.1.3	Cocoa-based spreads, including fillings	6.4 mg/kg	62 & XS86	2021
05.1.4	Cocoa and chocolate products	700 mg/kg	183	2016
05.1.5	Imitation chocolate, chocolate substitute products	700 mg/kg		2009
05.2.1	Hard candy	700 mg/kg		2009
05.2.2	Soft candy	100 mg/kg	XS309R	2017
05.2.3	Nougats and marzipans	100 mg/kg		2009
05.3	Chewing gum	700 mg/kg		2009
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	100 mg/kg		2009
06.4.3	Pre-cooked pastas and noodles and like products	100 mg/kg	153	2009
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	75 mg/kg		2009
07.1.4	Bread-type products, including bread stuffing and bread crumbs	6.4 mg/kg	62 & 161	2009
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	75 mg/kg		2009
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	40 mg/kg	95	2009
09.2.4.1	Cooked fish and fish products	30 mg/kg	62 & 95	2009

Table One

CHLOROPHYLLS AND CHLOROPHYLLINS, COPPER COMPLEXES

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	40 mg/kg	95	2009
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	200 mg/kg	XS167, XS189, XS222, XS236, XS244 & XS311	2018
09.3.1	Fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly	40 mg/kg	16	2009
09.3.2	Fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine	40 mg/kg	16	2009
09.3.3	Salmon substitutes, caviar, and other fish roe products	200 mg/kg	XS291	2018
09.3.4	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g. fish paste), excluding products of food categories 09.3.1 - 09.3.3	75 mg/kg	95	2009
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	500 mg/kg	95, XS3, XS37, XS70, XS90, XS94 & XS119	2018
10.4	Egg-based desserts (e.g. custard)	300 mg/kg	2	2009
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	64 mg/kg	62	2005
12.2.2	Seasonings and condiments	500 mg/kg		2009
12.4	Mustards	500 mg/kg		2009
12.5	Soups and broths	400 mg/kg	342	2015
12.6	Sauces and like products	100 mg/kg	XS302	2018
13.6	Food supplements	500 mg/kg	3	2009
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	300 mg/kg		2009
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	350 mg/kg		2009
15.2	Processed nuts, including coated nuts and nut mixtures (with e.g. dried fruit)	100 mg/kg		2009
15.3	Snacks - fish based	350 mg/kg		2009

CITRIC ACID

INS 330

Citric acid

Functional Class: Acidity regulator, Antioxidant, Colour retention agent, Sequestrant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	407	2018
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP		2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
01.6.6	Whey protein cheese	GMP		2006
02.1.1	Butter oil, anhydrous milkfat, ghee	GMP	171	2006
02.1.2	Vegetable oils and fats	GMP	15, 511, XS33	2021

Table One

CITRIC ACID

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
02.1.3	Lard, tallow, fish oil, and other animal fats	GMP		2014
04.2.1.1	Untreated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes [(including soybeans)], and aloe vera), seaweeds, and nuts and seeds	GMP	262 & 264	2013
04.2.2.1	Frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	GMP	242, 262, 264 & 265	2013
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
06.4.1	Fresh pastas and noodles and like products	GMP		2013
06.4.2	Dried pastas and noodles and like products	GMP	256	2013
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	15 & 281	2014
09.1.2	Fresh mollusks, crustaceans, and echinoderms	GMP	390, XS312 & XS315	2017
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	331, 391, 392, XS36, XS95, XS190, XS191, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	61	2013
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2015
09.2.4	Cooked and/or fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP		2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	437, XS167, XS189, XS222 & XS236	2018
10.2.1	Liquid egg products	GMP		2013
10.2.2	Frozen egg products	GMP		2013
12.1.2	Salt Substitutes	GMP		2013
13.1.1	Infant formulae	GMP	72	2015
13.1.2	Follow-up formulae	GMP	72	2013
13.1.3	Formulae for special medical purposes for infants	GMP	72	2015
13.2	Complementary foods for infants and young children	5000 mg/kg	238	2013
14.1.2.1	Fruit juice	3000 mg/kg	122	2005
14.1.2.2	Vegetable juice	GMP		2013
14.1.2.3	Concentrates for fruit juice	3000 mg/kg	122 & 127	2005
14.1.2.4	Concentrates for vegetable juice	GMP		2013
14.1.3.1	Fruit nectar	5000 mg/kg		2005
14.1.3.2	Vegetable nectar	GMP		2013
14.1.3.3	Concentrates for fruit nectar	5000 mg/kg	127	2005
14.1.3.4	Concentrates for vegetable nectar	GMP		2013

Table One

CITRIC ACID

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2013

CITRIC AND FATTY ACID ESTERS OF GLYCEROL

INS 472c Citric and fatty acid esters of glycerol Functional Class: Antioxidant, Emulsifier, Flour treatment agent, Sequestrant, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	407	2018
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
02.1.2	Vegetable oils and fats	100mg/kg	511, 520, XS33	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	100mg/kg	521	2021
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
06.4.1	Fresh pastas and noodles and like products	GMP	211	2015
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.1.2	Fresh mollusks, crustaceans, and echinoderms	GMP	390, XS312 & XS315	2017
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	392, XS36, XS92, XS95, XS165, XS190, XS191, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	16 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2014
09.2.4.1	Cooked fish and fish products	GMP	241	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, XS167, XS189, XS222, XS236, XS244 & XS311	2018
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
13.1	Infant formulae, follow-up formulae, and formulae for special medical purposes for infants	9000 mg/kg	380 & 381	2016

Table One

CITRIC AND FATTY ACID ESTERS OF GLYCEROL

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
13.2	Complementary foods for infants and young children	5000 mg/kg	239 & 268	2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

CURCUMIN

INS 100(i) Curcumin Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	150 mg/kg	52 & 402	2017
01.6.1	Unripened cheese	GMP	493, XS273, XS275	2021
01.6.2	Ripened cheese	GMP	498, XS208, XS278	2021
02.1.2	Vegetable oils and fats	5 mg/kg	509, 508, XS33, XS210	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	5 mg/kg	512, XS329	2021
02.2.2	Fat spreads, dairy fat spreads and blended spreads	10 mg/kg	528	2021
05.1.3	Cocoa-based spreads, including fillings	300 mg/kg	XS86	2021
05.1.4	Cocoa and chocolate products	300 mg/kg	183	2021
05.1.5	Imitation chocolate, chocolate substitute products	300 mg/kg		2021
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	300 mg/kg		2019
05.3	Chewing gum	300 mg/kg	444	2019
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	500 mg/kg		2019
06.4.3	Pre-cooked pastas and noodles and like products	500 mg/kg	194	2019
12.5	Soups and broths	50 mg/kg	99	2015
13.6	Food supplements	300 mg/kg	539	2021
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	60 mg/kg	127	2021
14.2.1	Beer and malt beverages	200 mg/kg	425	2021
14.2.2	Cider and perry	200 mg/kg		2021
14.2.4	Wines (other than grape)	200 mg/kg		2021
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	100 mg/kg		2021
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	100 mg/kg		2021

CURDLAN

INS 424 Curdlan Functional Class: Firming agent, Gelling agent, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
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Table One

CURDLAN

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
06.4.1	Fresh pastas and noodles and like products	GMP	211	2014

CYCLAMATES

INS 952(i) Cyclamic acid Functional Class: Sweetener

INS 952(ii) Calcium cyclamate Functional Class: Sweetener

INS 952(iv) Sodium cyclamate Functional Class: Sweetener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	250 mg/kg	17 & 477	2019
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	250 mg/kg	17 & 477	2019
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	250 mg/kg	17 & 477	2021
03.0	Edible ices, including sherbet and sorbet	250 mg/kg	17 & 477	2019
04.1.2.4	Canned or bottled (pasteurized) fruit	1000 mg/kg	17, 477 & XS319	2021
04.1.2.5	Jams, jellies, marmelades	1000 mg/kg	17 & 477	2019
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	2000 mg/kg	17 & 477	2019
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	250 mg/kg	17 & 477	2019
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	250 mg/kg	17 & 477	2019
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	250 mg/kg	17 & 477	2021
05.1.2	Cocoa mixes (syrups)	250 mg/kg	17, 127 & 477	2021
05.1.3	Cocoa-based spreads, including fillings	500 mg/kg	17, 477 & XS86	2019
05.1.4	Cocoa and chocolate products	500 mg/kg	17 & 477	2019
05.1.5	Imitation chocolate, chocolate substitute products	500 mg/kg	17 & 477	2021
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	500 mg/kg	17, 156, 477 & XS309R	2019
05.3	Chewing gum	3000 mg/kg	17 & 477	2019
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	500 mg/kg	17 & 477	2019
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	250 mg/kg	17 & 477	2021
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	1600 mg/kg	17 & 165	2007
10.4	Egg-based desserts (e.g. custard)	250 mg/kg	17 & 477	2019
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	500 mg/kg	17 & 159	2007
11.6	Table-top sweeteners, including those containing high-intensity sweeteners	GMP	17	2007

Table One

CYCLAMATES

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
12.6.1	Emulsified sauces and dips (e.g. mayonnaise, salad dressing, onion dip)	500 mg/kg	17 & 477	2021
12.7	Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	500 mg/kg	17 & 477	2021
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	400 mg/kg	17	2007
13.4	Dietetic formulae for slimming purposes and weight reduction	400 mg/kg	17	2007
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	400 mg/kg	17	2007
13.6	Food supplements	1250 mg/kg	17	2007
14.1.3.1	Fruit nectar	400 mg/kg	17 & 122	2005
14.1.3.2	Vegetable nectar	400 mg/kg	17 & 477	2021
14.1.3.3	Concentrates for fruit nectar	400 mg/kg	17, 122 & 127	2005
14.1.3.4	Concentrates for vegetable nectar	400 mg/kg	17, 127 & 477	2021
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	350 mg/kg	17 & 127	2010
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	250 mg/kg	17	2007

CYCLODEXTRIN, BETA-

INS 459 Cyclodextrin, beta- Functional Class: Carrier, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
05.3	Chewing gum	20000 mg/kg		2001
06.4.3	Pre-cooked pastas and noodles and like products	1000 mg/kg	153	2012
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	500 mg/kg		2001
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	500 mg/kg		2004

DEXTRINS, ROASTED STARCH

INS 1400 Dextrins, roasted starch Functional Class: Carrier, Emulsifier, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP	236	2013

Table One

DEXTRINS, ROASTED STARCH

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
06.4.2	Dried pastas and noodles and like products	GMP	256	2015
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	3, 53, XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP		2014
09.2.4.1	Cooked fish and fish products	GMP	241	2014
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2014
10.2.1	Liquid egg products	GMP		2015
10.2.2	Frozen egg products	GMP		2018
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	90 & 160	2014

DIACETYLTARTARIC AND FATTY ACID ESTERS OF GLYCEROL

INS 472e Diacetyltartaric and fatty acid esters of glycerol Functional Class: Emulsifier, Sequestrant, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	120 mg/kg	407	2018
01.1.4	Flavoured fluid milk drinks	5000 mg/kg	399	2017
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	5000 mg/kg		2005
01.2.2	Renneted milk (plain)	5000 mg/kg		2005
01.3.2	Beverage whiteners	5000 mg/kg	XS250 & XS252	2021
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	6000 mg/kg		2007
01.4.3	Clotted cream (plain)	5000 mg/kg		2006
01.4.4	Cream analogues	6000 mg/kg		2007
01.5.1	Milk powder and cream powder (plain)	10000 mg/kg		2006
01.5.2	Milk and cream powder analogues	10000 mg/kg	XS251	2021
01.6.1	Unripened cheese	10000 mg/kg	497, XS221, XS273	2021

Table One

DIACETYLTARTARIC AND FATTY ACID ESTERS OF GLYCEROL

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.6.2.1	Ripened cheese, includes rind	10000 mg/kg	XS208, XS263, XS264, XS265, XS266, XS267, XS268, XS269, XS270, XS271, XS272, XS274, XS276, XS277, XS278, XS283	2021
01.6.4	Processed cheese	10000 mg/kg		2005
01.6.5	Cheese analogues	10000 mg/kg		2005
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	10000 mg/kg		2005
02.1.2	Vegetable oils and fats	10000 mg/kg	XS19, XS33, XS210	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	10000 mg/kg	XS19, XS211	2021
02.2.2	Fat spreads, dairy fat spreads and blended spreads	10000 mg/kg		2005
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	10000 mg/kg		2005
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	5000 mg/kg		2005
03.0	Edible ices, including sherbet and sorbet	1000 mg/kg		2006
04.1.2.2	Dried fruit	10000 mg/kg		2005
04.1.2.3	Fruit in vinegar, oil, or brine	1000 mg/kg		2005
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	5000 mg/kg		2005
04.1.2.7	Candied fruit	1000 mg/kg		2005
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	2500 mg/kg		2005
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	2500 mg/kg		2005
04.1.2.10	Fermented fruit products	2500 mg/kg		2005
04.2.2.2	Dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	10000 mg/kg		2005
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	2500 mg/kg		2005
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	2500 mg/kg		2005
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	2500 mg/kg		2005
04.2.2.8	Cooked or fried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	2500 mg/kg		2005
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	10000 mg/kg	XS309R	2017

Table One

DIACETYLTARTARIC AND FATTY ACID ESTERS OF GLYCEROL

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
05.3	Chewing gum	50000 mg/kg		2005
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	10000 mg/kg		2005
06.2	Flours and starches (including soybean powder)	3000 mg/kg	186 & XS152	2019
06.4.2	Dried pastas and noodles and like products	5000 mg/kg		2008
06.4.3	Pre-cooked pastas and noodles and like products	10000 mg/kg		2005
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	5000 mg/kg		2005
06.6	Batters (e.g. for breading or batters for fish or poultry)	5000 mg/kg		2005
06.8.1	Soybean-based beverages	2000 mg/kg	347	2016
07.1	Bread and ordinary bakery wares	6000 mg/kg		2006
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	20000 mg/kg		2006
10.2.3	Dried and/or heat coagulated egg products	5000 mg/kg		2005
10.4	Egg-based desserts (e.g. custard)	5000 mg/kg		2005
12.1.2	Salt Substitutes	16000 mg/kg		2006
12.4	Mustards	10000 mg/kg		2005
12.5	Soups and broths	5000 mg/kg	XS117	2015
12.6	Sauces and like products	10000 mg/kg	XS302	2018
12.7	Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	5000 mg/kg		2005
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	5000 mg/kg		2005
13.4	Dietetic formulae for slimming purposes and weight reduction	5000 mg/kg		2005
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	5000 mg/kg		2005
13.6	Food supplements	5000 mg/kg		2005
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	5000 mg/kg		2005
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	500 mg/kg	142	2006
14.2.2	Cider and perry	5000 mg/kg		2005
14.2.4	Wines (other than grape)	5000 mg/kg		2005
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	5000 mg/kg		2005
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	10000 mg/kg		2005
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	20000 mg/kg		2005
15.2	Processed nuts, including coated nuts and nut mixtures (with e.g. dried fruit)	10000 mg/kg		2005

DIMETHYL DICARBONATE

DIMETHYL DICARBONATE

INS 242 Dimethyl dicarbonate Functional Class: Preservative

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	250 mg/kg	18	1999
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	250 mg/kg	18	2004
14.2.2	Cider and perry	250 mg/kg	18	2004
14.2.3	Grape wines	200 mg/kg	18	2004
14.2.4	Wines (other than grape)	250 mg/kg	18	2004
14.2.5	Mead	200 mg/kg	18	2004

DIOCTYL SODIUM SULFOSUCCINATE

INS 480 Dioctyl sodium sulfosuccinate Functional Class: Emulsifier, Humectant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	15 mg/kg	383, 384 & 385	2017

DIPOTASSIUM 5'-GUANYLATE

INS 628 Dipotassium 5'-guanylate Functional Class: Flavour enhancer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
12.1.2	Salt Substitutes	GMP		2015

DISODIUM 5'-GUANYLATE

INS 627 Disodium 5'-guanylate Functional Class: Flavour enhancer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP	279	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1	Fresh meat, poultry, and game	GMP	16	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	95, XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	309 & XS166	2017

Table One

DISODIUM 5'-GUANYLATE

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	311	2015
09.2.4	Cooked and/or fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	312	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	29, XS167, XS189, XS222, XS236, XS244 & XS311	2018
12.1.2	Salt Substitutes	GMP		2015
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	201	2015

DISODIUM 5'-INOSINATE

INS 631 Disodium 5'-inosinate Functional Class: Flavour enhancer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP	279	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1	Fresh meat, poultry, and game	GMP	16	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	95, XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	309 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	311	2015
09.2.4	Cooked and/or fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	312	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	29, XS167, XS189, XS222, XS236, XS244 & XS311	2018
12.1.2	Salt Substitutes	GMP		2015
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	201	2015

DISODIUM 5'-RIBONUCLEOTIDES

INS 635 Disodium 5'-ribonucleotides Functional Class: Flavour enhancer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
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Table One

DISODIUM 5'-RIBONUCLEOTIDES

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP	279	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	95, XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	309 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	311	2015
09.2.4	Cooked and/or fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	312	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	29, XS167, XS189, XS222, XS236, XS244 & XS311	2018
12.1.2	Salt Substitutes	GMP		2015
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	201	2015

DISTARCH PHOSPHATE

INS 1412

Distarch phosphate

Functional Class: Emulsifier, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
06.4.1	Fresh pastas and noodles and like products	GMP	211	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	63	2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
13.1.1	Infant formulae	5000 mg/kg	72, 150, 284 & 292	2014
13.1.2	Follow-up formulae	5000 mg/kg	72, 150, 285 & 292	2014
13.1.3	Formulae for special medical purposes for infants	5000 mg/kg	72, 150 & 292	2014
13.2	Complementary foods for infants and young children	50000 mg/kg	269 & 270	2014

Table One

DISTARCH PHOSPHATE

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

ERYTHORBIC ACID (ISOASCORBIC ACID)

INS 315 Erythorbic Acid (Isoascorbic acid) Functional Class: Antioxidant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.1.2	Fresh mollusks, crustaceans, and echinoderms	GMP	390, XS312 & XS315	2017
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	308, 392, XS36, XS92, XS95, XS165, XS190, XS191, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	139 & XS166	2017

ERYTHRITOL

INS 968 Erythritol Functional Class: Flavour enhancer, Humectant, Sweetener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	16000 mg/kg	160, 381 & 478	2021

ERYTHROSINE

INS 127 Erythrosine Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.2.7	Candied fruit	200 mg/kg	54	2005
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	30 mg/kg		2011
05.3	Chewing gum	50 mg/kg		2011
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	100 mg/kg		2011
08.2	Processed meat, poultry, and game products in whole pieces or cuts	30 mg/kg	4, 16, XS96 & XS97	2014
08.3	Processed comminuted meat, poultry, and game products	30 mg/kg	4, 290 & XS88	2014

ETHYL MALTOL

INS 637 Ethyl maltol Functional Class: Flavour enhancer

Table One

ETHYL MALTOL

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	200 mg/kg		2016
03.0	Edible ices, including sherbet and sorbet	200 mg/kg		2016
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	1000 mg/kg	XS309R	2017
05.3	Chewing gum	1000 mg/kg		2017

ETHYLENE DIAMINE TETRA ACETATES

INS 385 Calcium disodium ethylenediaminetetraacetate Functional Class: Antioxidant, Colour retention agent, Preservative, Sequestrant

INS 386 Disodium ethylenediaminetetraacetate Functional Class: Antioxidant, Colour retention agent, Preservative, Sequestrant, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
02.2.2	Fat spreads, dairy fat spreads and blended spreads	100 mg/kg	21	2001
04.1.2.2	Dried fruit	265 mg/kg	21	2001
04.1.2.3	Fruit in vinegar, oil, or brine	250 mg/kg	21	2008
04.1.2.5	Jams, jellies, marmelades	130 mg/kg	21	2001
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	100 mg/kg	21	2001
04.1.2.10	Fermented fruit products	250 mg/kg	21	2008
04.1.2.11	Fruit fillings for pastries	650 mg/kg	21	2001
04.2.2.1	Frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	100 mg/kg	21 & 110	2006
04.2.2.2	Dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	800 mg/kg	21, 64 & 297	2001
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	250 mg/kg	21	2001
04.2.2.4	Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	365 mg/kg	21	2001
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	250 mg/kg	21	2001
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	80 mg/kg	21	2001
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	250 mg/kg	21	2001
04.2.2.8	Cooked or fried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	250 mg/kg	21	2001

Table One

ETHYLENE DIAMINE TETRA ACETATES

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
05.1.3	Cocoa-based spreads, including fillings	50 mg/kg	21 & XS86	2016
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	315 mg/kg	21	2001
08.3.2	Heat-treated processed comminuted meat, poultry, and game products	35 mg/kg	21, XS88, XS89 & XS98	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	75 mg/kg	21, 392, XS36, XS92, XS95, XS165, XS190, XS191, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	75 mg/kg	21 & XS166	2017
09.2.4.1	Cooked fish and fish products	50 mg/kg	21	2005
09.3.2	Fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine	250 mg/kg	21	2001
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	340 mg/kg	21, 310, XS3, XS70, XS94 & XS119	2018
10.2.3	Dried and/or heat coagulated egg products	200 mg/kg	21 & 47	2001
11.6	Table-top sweeteners, including those containing high-intensity sweeteners	1000 mg/kg	21 & 96	2005
12.2	Herbs, spices, seasonings and condiments (e.g. seasoning for instant noodles)	70 mg/kg	21, XS326, XS327, XS328	2021
12.4	Mustards	75 mg/kg	21	2001
12.6.1	Emulsified sauces and dips (e.g. mayonnaise, salad dressing, onion dip)	100 mg/kg	21	2001
12.6.2	Non-emulsified sauces (e.g. ketchup, cheese sauce, cream sauce, brown gravy)	75 mg/kg	21	2001
12.7	Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	100 mg/kg	21	2001
13.6	Food supplements	150 mg/kg	21	2001
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	200 mg/kg	21	2001
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	35 mg/kg	21	2001
14.2.1	Beer and malt beverages	25 mg/kg	21	2004
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	25 mg/kg	21	2005
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	25 mg/kg	21	2007

FAST GREEN FCF

INS 143

Fast green FCF

Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	100 mg/kg	52	2008
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	100 mg/kg	2	1999

Table One

FAST GREEN FCF

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
02.1.3	Lard, tallow, fish oil, and other animal fats	GMP	XS19, XS211, XS329	2021
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	100 mg/kg		2009
03.0	Edible ices, including sherbet and sorbet	100 mg/kg		1999
04.1.2.4	Canned or bottled (pasteurized) fruit	200 mg/kg	267	2018
04.1.2.5	Jams, jellies, marmelades	400 mg/kg		1999
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	100 mg/kg	161	2009
04.1.2.7	Candied fruit	100 mg/kg	161	2009
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	100 mg/kg	161 & 182	2009
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	100 mg/kg	161	2009
04.1.2.11	Fruit fillings for pastries	100 mg/kg	161	2009
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	300 mg/kg		1999
04.2.2.4	Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	200 mg/kg		1999
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	100 mg/kg	161	2009
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	100 mg/kg	XS309R	2017
05.3	Chewing gum	300 mg/kg		1999
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	100 mg/kg		2009
06.4.3	Pre-cooked pastas and noodles and like products	290 mg/kg	194	2010
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	100 mg/kg	161	2009
07.0	Bakery wares	100 mg/kg	161	2009
08.1	Fresh meat, poultry, and game	100 mg/kg	3, 4 & 16	2009
08.2	Processed meat, poultry, and game products in whole pieces or cuts	100 mg/kg	3, 4, XS96 & XS97	2014
08.4	Edible casings (e.g. sausage casings)	100 mg/kg	3 & 4	2009
09.2.4.1	Cooked fish and fish products	100 mg/kg		1999
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	100 mg/kg	XS167, XS189, XS222, XS236, XS244 & XS311	2018
09.3.3	Salmon substitutes, caviar, and other fish roe products	100 mg/kg	XS291	2018
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	100 mg/kg	95, XS3, XS37, XS70, XS90, XS94 & XS119	2018
10.1	Fresh eggs	GMP	4	1999

Table One

FAST GREEN FCF

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
10.4	Egg-based desserts (e.g. custard)	100 mg/kg		2009
12.2.2	Seasonings and condiments	100 mg/kg		2009
12.6.1	Emulsified sauces and dips (e.g. mayonnaise, salad dressing, onion dip)	100 mg/kg		2009
13.6	Food supplements	600 mg/kg		2009
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	100 mg/kg		1999
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	100 mg/kg		1999
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	100 mg/kg		1999

FERRIC AMMONIUM CITRATE

INS 381 Ferric ammonium citrate Functional Class: Anticaking agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.1.4.3	Concentrates (liquid or solid) for water-based flavoured drinks	10 mg/kg	23	1999

FERROCYANIDES

INS 535 Sodium ferrocyanide Functional Class: Anticaking agent

INS 536 Potassium ferrocyanide Functional Class: Anticaking agent

INS 538 Calcium ferrocyanide Functional Class: Anticaking agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
12.1.1	Salt	14 mg/kg	24 & 107	2006
12.1.2	Salt Substitutes	20 mg/kg	24	1999
12.2.2	Seasonings and condiments	20 mg/kg	24	1999

FERROUS GLUCONATE

INS 579 Ferrous gluconate Functional Class: Colour retention agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	150 mg/kg	23 & 48	1999

FERROUS LACTATE

INS 585 Ferrous lactate Functional Class: Colour retention agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
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Table One

FERROUS LACTATE

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	150 mg/kg	23 & 48	1999

FUMARIC ACID

INS 297 Fumaric acid Functional Class: Acidity regulator

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
06.4.1	Fresh pastas and noodles and like products	700 mg/kg		2013
06.4.2	Dried pastas and noodles and like products	GMP	256	2013
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2013
09.2.4	Cooked and/or fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP		2013
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS167, XS189, XS222, XS236, XS244 & XS311	2018
12.1.2	Salt Substitutes	GMP		2013
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2013

GELLAN GUM

INS 418 Gellan gum Functional Class: Gelling agent, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	407 & 438	2019
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
06.4.1	Fresh pastas and noodles and like products	GMP	211	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014

Table One

GELLAN GUM

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP		2014
09.2.4.1	Cooked fish and fish products	GMP	241	2014
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2014
10.2.1	Liquid egg products	GMP		2014
10.2.2	Frozen egg products	GMP		2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

GLUCONO DELTA-LACTONE

INS 575 Glucono delta-lactone Functional Class: Acidity regulator, Raising agent, Sequestrant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP		2013
01.6.6	Whey protein cheese	GMP		2006
06.4.1	Fresh pastas and noodles and like products	GMP		2013
13.2	Complementary foods for infants and young children	GMP	239	2013

GLUTAMIC ACID, L(+)-

INS 620 Glutamic acid, L(+)- Functional Class: Flavour enhancer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
12.1.2	Salt Substitutes	GMP		2015

GLYCEROL

INS 422 Glycerol Functional Class: Humectant, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.2	Renneted milk (plain)	GMP		2014

Table One

GLYCEROL

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2014
06.4.1	Fresh pastas and noodles and like products	GMP	211	2014
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP		2014
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP		2015
09.2.4.1	Cooked fish and fish products	GMP	241	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, XS167, XS189, XS222, XS236, XS244 & XS311	2018
10.2.2	Frozen egg products	GMP		2015
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2015
12.1.2	Salt Substitutes	GMP		2015
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2015

GLYCEROL ESTER OF WOOD ROSIN

INS 445(iii) Glycerol ester of wood rosin Functional Class: Emulsifier, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.1.2	Surface-treated fresh fruit	110 mg/kg		2005
04.2.1.2	Surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	110 mg/kg		2005
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	150 mg/kg		1999

GRAPE SKIN EXTRACT

INS 163(ii) Grape skin extract Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	100 mg/kg	52, 181 & 402	2017
01.4.4	Cream analogues	150 mg/kg	181 & 201	2011
01.5.2	Milk and cream powder analogues	150 mg/kg	181, 201 & XS251	2021

Table One

GRAPE SKIN EXTRACT

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.6.2.2	Rind of ripened cheese	1000 mg/kg		2009
01.6.4.2	Flavoured processed cheese, including containing fruit, vegetables, meat, etc.	1000 mg/kg		2009
01.6.5	Cheese analogues	1000 mg/kg		2009
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	200 mg/kg	181	2009
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	200 mg/kg	181	2009
03.0	Edible ices, including sherbet and sorbet	100 mg/kg	181	2011
04.1.2.3	Fruit in vinegar, oil, or brine	1500 mg/kg	161	2009
04.1.2.4	Canned or bottled (pasteurized) fruit	1500 mg/kg	181 & 267	2018
04.1.2.5	Jams, jellies, marmelades	500 mg/kg	161 & 181	2009
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	500 mg/kg	161 & 181	2009
04.1.2.7	Candied fruit	1000 mg/kg		2011
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	500 mg/kg	179, 181 & 182	2011
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	500 mg/kg	161 & 181	2009
04.1.2.10	Fermented fruit products	500 mg/kg	161 & 181	2009
04.1.2.11	Fruit fillings for pastries	500 mg/kg	161 & 181	2009
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	100 mg/kg	179 & 181	2011
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	100 mg/kg	179 & 181	2011
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	100 mg/kg	92 & 181	2011
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	100 mg/kg	161 & 181	2009
05.1.3	Cocoa-based spreads, including fillings	200 mg/kg	181 & XS86	2016
05.1.4	Cocoa and chocolate products	200 mg/kg	181 & 183	2016
05.1.5	Imitation chocolate, chocolate substitute products	200 mg/kg	181	2009
05.2.2	Soft candy	1700 mg/kg	181 & XS309R	2017
05.3	Chewing gum	500 mg/kg	181	2009
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	500 mg/kg	181	2009
06.3	Breakfast cereals, including rolled oats	200 mg/kg		2010
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	200 mg/kg	181	2011

Table One

GRAPE SKIN EXTRACT

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
07.1.2	Crackers, excluding sweet crackers	200 mg/kg	181	2011
07.1.4	Bread-type products, including bread stuffing and bread crumbs	200 mg/kg	181	2011
08.1.2	Fresh meat, poultry, and game, comminuted	1000 mg/kg	4, 16 & 94	2010
08.2	Processed meat, poultry, and game products in whole pieces or cuts	5000 mg/kg	16, XS96 & XS97	2014
08.3	Processed comminuted meat, poultry, and game products	5000 mg/kg	16, XS88, XS89 & XS98	2014
08.4	Edible casings (e.g. sausage casings)	5000 mg/kg		2009
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	500 mg/kg	16 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16 & 95	2009
09.2.4.1	Cooked fish and fish products	500 mg/kg	95	2009
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	1000 mg/kg		2011
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	1000 mg/kg	16 & 95	2009
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	1000 mg/kg	22, XS167, XS189, XS222, XS236, XS244 & XS311	2018
09.3.1	Fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly	500 mg/kg	16	2009
09.3.2	Fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine	1500 mg/kg	16	2009
09.3.3	Salmon substitutes, caviar, and other fish roe products	1500 mg/kg	XS291	2018
09.3.4	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g. fish paste), excluding products of food categories 09.3.1 - 09.3.3	1500 mg/kg	16	2009
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	1500 mg/kg	16, XS3, XS37, XS70, XS90, XS94 & XS119	2018
10.1	Fresh eggs	1500 mg/kg	4	2010
10.4	Egg-based desserts (e.g. custard)	200 mg/kg	181	2009
12.4	Mustards	200 mg/kg	181	2009
12.5	Soups and broths	500 mg/kg	181 & XS117	2015
12.6.1	Emulsified sauces and dips (e.g. mayonnaise, salad dressing, onion dip)	300 mg/kg	181	2009
12.6.2	Non-emulsified sauces (e.g. ketchup, cheese sauce, cream sauce, brown gravy)	300 mg/kg	181	2009
12.6.3	Mixes for sauces and gravies	300 mg/kg	181	2009
12.7	Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	1500 mg/kg		2009
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	250 mg/kg	181	2009
13.4	Dietetic formulae for slimming purposes and weight reduction	250 mg/kg	181	2009

Table One

GRAPE SKIN EXTRACT

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	250 mg/kg	181	2009
13.6	Food supplements	500 mg/kg	181	2009
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	300 mg/kg	181	2009
14.2.2	Cider and perry	300 mg/kg	181	2009
14.2.4	Wines (other than grape)	300 mg/kg	181	2009
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	300 mg/kg	181	2010
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	300 mg/kg	181	2009
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	500 mg/kg	181	2009
15.2	Processed nuts, including coated nuts and nut mixtures (with e.g. dried fruit)	300 mg/kg	181	2009
15.3	Snacks - fish based	400 mg/kg		2011

GUAIAIC RESIN

INS 314 Guaiac resin Functional Class: Antioxidant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
02.1.2	Vegetable oils and fats	1000 mg/kg	XS19, XS33, XS210	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	1000 mg/kg	XS19, XS211	2021
05.3	Chewing gum	1500 mg/kg		1999
12.6	Sauces and like products	600 mg/kg	15 & XS302	2018

GUANYLIC ACID, 5'-

INS 626 Guanylic acid, 5'- Functional Class: Flavour enhancer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
12.1.2	Salt Substitutes	GMP		2015

GUAR GUM

INS 412 Guar gum Functional Class: Emulsifier, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	407 & 438	2019
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2015
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013

Table One

GUAR GUM

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
06.4.1	Fresh pastas and noodles and like products	GMP	211	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	73, 391, XS36, XS92, XS95, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	177	2014
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP		2014
09.2.4.1	Cooked fish and fish products	GMP	241	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, XS167, XS189, XS222, XS236, XS244 & XS311	2018
10.2.1	Liquid egg products	GMP		2014
10.2.2	Frozen egg products	GMP		2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
13.1.1	Infant formulae	1000 mg/kg	14 & 72	2014
13.1.2	Follow-up formulae	1000 mg/kg	72	2014
13.1.3	Formulae for special medical purposes for infants	1000 mg/kg	14 & 72	2014
13.2	Complementary foods for infants and young children	2000 mg/kg	271 & 272	2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

GUM ARABIC (ACACIA GUM)

INS 414 Gum arabic (Acacia gum) Functional Class: Bulking agent, Carrier, Emulsifier, Glazing agent, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	407 & 438	2019
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2015

Table One

GUM ARABIC (ACACIA GUM)

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
04.1.1.2	Surface-treated fresh fruit	GMP	453 & 454	2021
06.4.1	Fresh pastas and noodles and like products	GMP	211	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	16, XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	16 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2014
09.2.4.1	Cooked fish and fish products	GMP	16 & 325	2015
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	GMP	16	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41, 325 & 332	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, 332, XS167, XS189, XS222, XS236, XS244 & XS311	2018
10.2.1	Liquid egg products	GMP		2014
10.2.2	Frozen egg products	GMP		2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
13.2	Complementary foods for infants and young children	10000 mg/kg	239 & 273	2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

HEXAMETHYLENE TETRAMINE

INS 239 Hexamethylene tetramine Functional Class: Preservative

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
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Table One

HEXAMETHYLENE TETRAMINE

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.6.2.1	Ripened cheese, includes rind	25 mg/kg	66, 298, XS208, XS263, XS264, XS265, XS266, XS267, XS268, XS269, XS270, XS271, XS272, XS274, XS276, XS277, XS278	2021

HYDROCHLORIC ACID

INS 507 Hydrochloric acid Functional Class: Acidity regulator

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
13.2	Complementary foods for infants and young children	GMP	239	2013

HYDROGENATED POLY-1-DECENES

INS 907 Hydrogenated poly-1-decenes Functional Class: Glazing agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.2.2	Dried fruit	2000 mg/kg		2016
05.2.2	Soft candy	2000 mg/kg	XS309R	2016

HYDROXYBENZOATES, PARA-

INS 214 Ethyl para-hydroxybenzoate Functional Class: Preservative

INS 218 Methyl para-hydroxybenzoate Functional Class: Preservative

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.6.4	Processed cheese	300 mg/kg	27	2012
01.6.5	Cheese analogues	500 mg/kg	27	2009
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	120 mg/kg	27	2012
02.2.2	Fat spreads, dairy fat spreads and blended spreads	300 mg/kg	27, XS256	2021
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	300 mg/kg	27	2012
04.1.2.2	Dried fruit	800 mg/kg	27	2010
04.1.2.3	Fruit in vinegar, oil, or brine	250 mg/kg	27	2012
04.1.2.5	Jams, jellies, marmelades	250 mg/kg	27	2012
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	1000 mg/kg	27	2012
04.1.2.7	Candied fruit	1000 mg/kg	27	2010
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	800 mg/kg	27	2010

Table One

HYDROXYBENZOATES, PARA-

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	800 mg/kg	27	2012
04.1.2.10	Fermented fruit products	800 mg/kg	27	2010
04.1.2.11	Fruit fillings for pastries	800 mg/kg	27	2010
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	1000 mg/kg	27	2010
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	1000 mg/kg	27	2010
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	1000 mg/kg	27	2010
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	300 mg/kg	27	2012
05.1.3	Cocoa-based spreads, including fillings	300 mg/kg	27 & XS86	2016
05.1.5	Imitation chocolate, chocolate substitute products	300 mg/kg	27	2009
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	1000 mg/kg	27 & XS309R	2017
05.3	Chewing gum	1500 mg/kg	27	2010
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	300 mg/kg	27	2010
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	300 mg/kg	27	2010
08.4	Edible casings (e.g. sausage casings)	36 mg/kg	27	2010
09.3	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms	1000 mg/kg	27 & XS291	2018
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	100 mg/kg	27	2012
12.3	Vinegars	100 mg/kg	27	2012
12.4	Mustards	300 mg/kg	27	2010
12.6	Sauces and like products	1000 mg/kg	27 & XS302	2018
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	500 mg/kg	27	2010
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	450 mg/kg	27 & 160	2012
14.2.2	Cider and perry	200 mg/kg	27	2010
14.2.4	Wines (other than grape)	200 mg/kg	27	2012
14.2.5	Mead	200 mg/kg	27	2010
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	1000 mg/kg	27 & 224	2012
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	300 mg/kg	27	2009
15.2	Processed nuts, including coated nuts and nut mixtures (with e.g. dried fruit)	300 mg/kg	27	2010

HYDROXYBENZOATES, PARA-

HYDROXYPROPYL CELLULOSE

INS 463 Hydroxypropyl cellulose Functional Class: Emulsifier, Foaming agent, Glazing agent, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
04.1.1.2	Surface-treated fresh fruit	GMP	454	2021
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	16, XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	63 & 332	2015
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2014
09.2.4.1	Cooked fish and fish products	GMP	16 & 325	2015
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	GMP	16	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41, 325 & 332	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, 332, XS167, XS189, XS222, XS236, XS244 & XS311	2018
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

HYDROXYPROPYL DISTARCH PHOSPHATE

INS 1442 Hydroxypropyl distarch phosphate Functional Class: Anticaking agent, Emulsifier, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013

Table One

HYDROXYPROPYL DISTARCH PHOSPHATE

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.8.2	Dried whey and whey products, excluding whey cheeses	10000 mg/kg		2006
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	63	2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.2.1	Herbs and spices	GMP	534	2021
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

HYDROXYPROPYL METHYL CELLULOSE

INS 464 Hydroxypropyl methyl cellulose Functional Class: Bulking agent, Emulsifier, Glazing agent, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
04.1.1.2	Surface-treated fresh fruit	GMP	454	2021
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	16, XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	63 & 332	2015
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2014
09.2.4.1	Cooked fish and fish products	GMP	16 & 325	2015
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	GMP	16	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41, 325 & 332	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, 332, XS167, XS189, XS222, XS236, XS244 & XS311	2018
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

HYDROXYPROPYL STARCH

HYDROXYPROPYL STARCH

INS 1440 Hydroxypropyl starch

Functional Class: Emulsifier, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	407 & 438	2019
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	63	2014
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2014
09.2.4.1	Cooked fish and fish products	GMP	241	2014
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2014
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, XS167, XS189, XS222, XS236, XS244 & XS311	2018
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
13.1.1	Infant formulae	5000 mg/kg	72, 150, 284 & 292	2014
13.1.3	Formulae for special medical purposes for infants	5000 mg/kg	72, 150 & 292	2014
13.2	Complementary foods for infants and young children	60000 mg/kg	237 & 276	2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

INDIGOTINE (INDIGO CARMINE)

INS 132 Indigotine (Indigo carmine)

Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	300 mg/kg	52 & 402	2017
01.6.1	Unripened cheese	200 mg/kg	3, XS221, XS273, XS275	2021

Table One

INDIGOTINE (INDIGO CARMINE)

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.6.2.2	Rind of ripened cheese	100 mg/kg		2009
01.6.4.2	Flavoured processed cheese, including containing fruit, vegetables, meat, etc.	100 mg/kg		2009
01.6.5	Cheese analogues	200 mg/kg	3 & 161	2009
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	150 mg/kg		2009
02.1.3	Lard, tallow, fish oil, and other animal fats	300 mg/kg	161, XS19, XS211, XS329	2021
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	300 mg/kg	161	2009
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	150 mg/kg		2009
03.0	Edible ices, including sherbet and sorbet	150 mg/kg		2009
04.1.2.5	Jams, jellies, marmelades	300 mg/kg	161	2009
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	300 mg/kg	161	2009
04.1.2.7	Candied fruit	200 mg/kg	161	2009
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	150 mg/kg	161 & 182	2009
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	150 mg/kg	161	2009
04.1.2.11	Fruit fillings for pastries	150 mg/kg	161	2009
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	150 mg/kg	161	2009
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	200 mg/kg	92 & 161	2009
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	300 mg/kg	161	2009
05.1.4	Cocoa and chocolate products	450 mg/kg	183	2016
05.1.5	Imitation chocolate, chocolate substitute products	300 mg/kg		2009
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	300 mg/kg	XS309R	2017
05.3	Chewing gum	300 mg/kg		2009
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	300 mg/kg		2009
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	150 mg/kg		2009
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	200 mg/kg	161	2009
09.1.1	Fresh fish	300 mg/kg	4, 16 & 50	2009

Table One

INDIGOTINE (INDIGO CARMINE)

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	300 mg/kg	95, XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.4.1	Cooked fish and fish products	300 mg/kg	95	2009
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	250 mg/kg	16	2009
09.3.3	Salmon substitutes, caviar, and other fish roe products	300 mg/kg	XS291	2018
09.3.4	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g. fish paste), excluding products of food categories 09.3.1 - 09.3.3	300 mg/kg	161	2009
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	300 mg/kg	XS3, XS37, XS70, XS90, XS94 & XS119	2018
10.1	Fresh eggs	300 mg/kg	4 & 161	2009
10.4	Egg-based desserts (e.g. custard)	300 mg/kg	161	2009
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	300 mg/kg	161	2009
12.2.2	Seasonings and condiments	300 mg/kg		2009
12.4	Mustards	300 mg/kg		2009
12.5	Soups and broths	50 mg/kg		2009
12.6	Sauces and like products	300 mg/kg	XS302	2018
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	50 mg/kg		2009
13.4	Dietetic formulae for slimming purposes and weight reduction	50 mg/kg		2009
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	300 mg/kg		2009
13.6	Food supplements	300 mg/kg		2009
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	100 mg/kg		2009
14.2.2	Cider and perry	200 mg/kg		2009
14.2.4	Wines (other than grape)	200 mg/kg		2009
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	300 mg/kg		2009
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	200 mg/kg		2009
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	200 mg/kg		2009
15.2	Processed nuts, including coated nuts and nut mixtures (with e.g. dried fruit)	100 mg/kg		2009

INOSINIC ACID, 5'-

INS 630

Inosinic acid, 5'-

Functional Class: Flavour enhancer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
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Table One

INOSINIC ACID, 5'-

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
12.1.2	Salt Substitutes	GMP		2015

IRON OXIDES

INS 172(i) Iron oxide, black Functional Class: Colour

INS 172(ii) Iron oxide, red Functional Class: Colour

INS 172(iii) Iron oxide, yellow Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	20 mg/kg	52 & 402	2017
01.6.2.2	Rind of ripened cheese	100 mg/kg		2005
01.6.4	Processed cheese	50 mg/kg		2005
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	100 mg/kg		2005
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	350 mg/kg		2005
03.0	Edible ices, including sherbet and sorbet	300 mg/kg		2005
04.1.1.2	Surface-treated fresh fruit	1000 mg/kg	4 & 16	2008
04.1.2.4	Canned or bottled (pasteurized) fruit	300 mg/kg	267	2018
04.1.2.5	Jams, jellies, marmelades	200 mg/kg		2005
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	500 mg/kg		2005
04.1.2.7	Candied fruit	250 mg/kg		2005
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	200 mg/kg		2005
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	200 mg/kg	XS309R	2017
05.3	Chewing gum	5000 mg/kg		2021
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	100 mg/kg		2005
06.3	Breakfast cereals, including rolled oats	75 mg/kg		2005
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	75 mg/kg		2005
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	100 mg/kg		2005
08.4	Edible casings (e.g. sausage casings)	1000 mg/kg	72	2005
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	250 mg/kg	22, XS167, XS189, XS222, XS236, XS244 & XS311	2018
09.3.3	Salmon substitutes, caviar, and other fish roe products	100 mg/kg	XS291	2018
09.3.4	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g. fish paste), excluding products of food categories 09.3.1 - 09.3.3	50 mg/kg	95	2010

Table One

IRON OXIDES

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	50 mg/kg	95, XS3, XS37, XS70, XS90, XS94 & XS119	2018
10.1	Fresh eggs	GMP	4	2005
10.4	Egg-based desserts (e.g. custard)	150 mg/kg		2010
12.2.2	Seasonings and condiments	1000 mg/kg		2005
12.5	Soups and broths	100 mg/kg	XS117	2015
12.6	Sauces and like products	75 mg/kg	XS302	2018
13.6	Food supplements	7500 mg/kg	3	2009
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	100 mg/kg		2005
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	500 mg/kg		2005
15.2	Processed nuts, including coated nuts and nut mixtures (with e.g. dried fruit)	400 mg/kg		2005

ISOMALT (HYDROGENATED ISOMALTULOSE)

INS 953 Isomalt (Hydrogenated isomaltulose) Functional Class: Anticaking agent, Bulking agent, Flavour enhancer, Glazing agent, Stabilizer, Sweetener, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
12.2.1	Herbs and spices	GMP	534	2021

ISOPROPYL CITRATES

INS 384 Isopropyl citrates Functional Class: Antioxidant, Preservative, Sequestrant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
02.1.2	Vegetable oils and fats	200 mg/kg	511, 520, XS33	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	200 mg/kg	521	2021
02.2.2	Fat spreads, dairy fat spreads and blended spreads	100 mg/kg		2001
08.1.2	Fresh meat, poultry, and game, comminuted	200 mg/kg		2001
08.2.1.2	Cured (including salted) and dried non-heat treated processed meat, poultry, and game products in whole pieces or cuts	200 mg/kg		2001
08.3.1.2	Cured (including salted) and dried non-heat treated processed comminuted meat, poultry, and game products	200 mg/kg		2001
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	200 mg/kg		2001

KARAYA GUM

INS 416 Karaya gum Functional Class: Emulsifier, Stabilizer, Thickener

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	200 mg/kg	234 & 235	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
06.4.1	Fresh pastas and noodles and like products	GMP	211	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP		2014
09.2.4.1	Cooked fish and fish products	GMP	241	2014
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2014
10.2.1	Liquid egg products	GMP		2014
10.2.2	Frozen egg products	GMP		2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

KONJAC FLOUR

INS 425 Konjac flour

Functional Class: Carrier, Emulsifier, Gelling agent, Glazing agent, Humectant, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2015
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2015
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP	236	2013
06.4.1	Fresh pastas and noodles and like products	GMP	211	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2015

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	16, XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41, 325, 332 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP		2015
09.2.4.1	Cooked fish and fish products	GMP	16 & 325	2015
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	GMP	16	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41, 325 & 332	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, 332, XS167, XS189, XS222, XS236, XS244 & XS311	2018
10.2.1	Liquid egg products	GMP		2014
10.2.2	Frozen egg products	GMP		2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

LACTIC ACID, L-, D- and DL-

INS 270 Lactic acid, L-, D- and DL- Functional Class: Acidity regulator

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.4.1	Pasteurized cream (plain)	GMP		2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
01.6.6	Whey protein cheese	GMP		2006
04.2.1.1	Untreated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes [(including soybeans)], and aloe vera), seaweeds, and nuts and seeds	GMP	262 & 264	2013
04.2.2.1	Frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	GMP	262 & 264	2013
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
06.4.1	Fresh pastas and noodles and like products	GMP		2013
06.4.2	Dried pastas and noodles and like products	GMP	256	2013
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	382, XS167, XS189, XS222, XS236 & XS244	2018

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
10.2.1	Liquid egg products	GMP		2013
10.2.2	Frozen egg products	GMP		2013
12.1.2	Salt Substitutes	GMP		2013
13.1.1	Infant formulae	GMP	72 & 83	2015
13.1.2	Follow-up formulae	GMP	72 & 83	2013
13.1.3	Formulae for special medical purposes for infants	GMP	72 & 83	2015
13.2	Complementary foods for infants and young children	2000 mg/kg	83 & 238	2013

LACTIC AND FATTY ACID ESTERS OF GLYCEROL

INS 472b Lactic and fatty acid esters of glycerol Functional Class: Emulsifier, Sequestrant, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	407	2018
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
06.4.1	Fresh pastas and noodles and like products	GMP	211	2015
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	16 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2014
09.2.4.1	Cooked fish and fish products	GMP	241	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, XS167, XS189, XS222, XS236, XS244 & XS311	2018
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
13.2	Complementary foods for infants and young children	5000 mg/kg	239 & 268	2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

Table One

LAURIC ARGINATE ETHYL ESTER

INS 243 Lauric arginate ethyl ester Functional Class: Preservative

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.6.1	Unripened cheese	200 mg/kg	XS221, XS273, XS275	2021
01.6.2.1	Ripened cheese, includes rind	200 mg/kg	XS208, XS263, XS264, XS265, XS266, XS267, XS268, XS269, XS270, XS271, XS272, XS274, XS276, XS277, XS278, XS283	2021
01.6.3	Whey cheese	200 mg/kg		2011
01.6.4	Processed cheese	200 mg/kg		2011
01.6.5	Cheese analogues	200 mg/kg		2011
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	200 mg/kg	170	2011
02.2.2	Fat spreads, dairy fat spreads and blended spreads	200 mg/kg	214 & 215	2011
04.1.2.2	Dried fruit	200 mg/kg		2011
04.1.2.11	Fruit fillings for pastries	200 mg/kg		2011
04.2.1.2	Surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	200 mg/kg		2011
04.2.1.3	Peeled, cut or shredded fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	200 mg/kg		2011
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	200 mg/kg		2011
05.1.3	Cocoa-based spreads, including fillings	200 mg/kg	XS86	2016
05.3	Chewing gum	225 mg/kg		2011
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	200 mg/kg		2011
08.2.1	Non-heat treated processed meat, poultry, and game products in whole pieces or cuts	200 mg/kg		2016
08.2.2	Heat-treated processed meat, poultry, and game products in whole pieces or cuts	200 mg/kg	396	2019
08.2.3	Frozen processed meat, poultry, and game products in whole pieces or cuts	200 mg/kg	3 & 374	2016
08.3.1	Non-heat treated processed comminuted meat, poultry, and game products	315 mg/kg		2016
08.3.2	Heat-treated processed comminuted meat, poultry, and game products	200 mg/kg	377	2019
08.3.3	Frozen processed comminuted meat, poultry, and game products	315 mg/kg	3 & 374	2016
09.2.4.1	Cooked fish and fish products	200 mg/kg		2018
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	200 mg/kg		2018

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	200 mg/kg	419	2018
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	200 mg/kg	333, XS189, XS222 & XS236	2021
09.3.1	Fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly	200 mg/kg		2018
09.3.2	Fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine	200 mg/kg		2018
09.3.3	Salmon substitutes, caviar, and other fish roe products	200 mg/kg	XS291	2018
09.3.4	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g. fish paste), excluding products of food categories 09.3.1 - 09.3.3	200 mg/kg		2018
10.2	Egg products	200 mg/kg		2011
10.4	Egg-based desserts (e.g. custard)	200 mg/kg		2011
12.2.2	Seasonings and condiments	200 mg/kg		2011
12.5	Soups and broths	200 mg/kg	XS117	2015
12.6.1	Emulsified sauces and dips (e.g. mayonnaise, salad dressing, onion dip)	200 mg/kg		2011
12.6.2	Non-emulsified sauces (e.g. ketchup, cheese sauce, cream sauce, brown gravy)	200 mg/kg		2011
12.7	Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	200 mg/kg		2011
14.1.4.1	Carbonated water-based flavoured drinks	50 mg/kg		2011
14.1.4.2	Non-carbonated water-based flavoured drinks, including punches and ades	50 mg/kg		2011
14.1.4.3	Concentrates (liquid or solid) for water-based flavoured drinks	50 mg/kg	127	2011

LECITHIN

INS 322(i)

Lecithin

Functional Class: Antioxidant, Emulsifier, Flour treatment agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	410	2018
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
01.8.2	Dried whey and whey products, excluding whey cheeses	GMP		2015
02.1.1	Butter oil, anhydrous milkfat, ghee	GMP	507	2021
02.1.2	Vegetable oils and fats	GMP	511, 519, XS33	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	GMP		2018
04.1.1.2	Surface-treated fresh fruit	GMP	454	2021

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.1.2	Surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	GMP	455 & 456	2021
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
06.2.1	Flours	GMP	25 & 28	2014
06.4.1	Fresh pastas and noodles and like products	GMP		2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.1.2	Fresh mollusks, crustaceans, and echinoderms	GMP	390, XS312 & XS315	2017
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	392, XS36, XS92, XS95, XS165, XS190, XS191, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	63	2014
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2014
09.2.4.1	Cooked fish and fish products	GMP	241	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, XS167, XS189, XS222, XS236, XS244 & XS311	2018
10.2.1	Liquid egg products	GMP		2014
10.2.2	Frozen egg products	GMP		2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
13.1.1	Infant formulae	5000 mg/kg	72	2014
13.1.2	Follow-up formulae	5000 mg/kg	72	2014
13.1.3	Formulae for special medical purposes for infants	5000 mg/kg	72	2014
13.2	Complementary foods for infants and young children	5000 mg/kg	271 & 274	2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

LUTEIN FROM TAGETES ERECTA

INS 161b(i) Lutein from *Tagetes erecta* Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
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Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	100 mg/kg	52 & 400	2017

LYSOZYME

INS 1105 Lysozyme Functional Class: Preservative

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.6.2	Ripened cheese	GMP	XS208, XS274, XS276, XS277, XS278	2021
14.2.2	Cider and perry	500 mg/kg		2004
14.2.3	Grape wines	500 mg/kg		2004

MAGNESIUM CARBONATE

INS 504(i) Magnesium carbonate Functional Class: Acidity regulator, Anticaking agent, Colour retention agent, Flour treatment agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.3	Fluid buttermilk (plain)	GMP	261	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP		2013
01.8.2	Dried whey and whey products, excluding whey cheeses	10000 mg/kg		2006
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	5000 mg/kg	36	2013
06.2.1	Flours	1500 mg/kg		2021
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	16 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2013
09.2.4	Cooked and/or fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP		2013
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS167, XS189, XS222, XS236, XS244 & XS311	2018
11.1.2	Powdered sugar, powdered dextrose	15000 mg/kg	56, 465	2019
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2013
12.1.1	Salt	GMP		2006
12.1.2	Salt Substitutes	GMP		2013
12.2.1	Herbs and spices	GMP	534	2021
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2013

Table One

MAGNESIUM CHLORIDE

INS 511 Magnesium chloride Functional Class: Colour retention agent, Firming agent, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2014
09.2.4.1	Cooked fish and fish products	GMP	241	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, XS167, XS189, XS222, XS236, XS244 & XS311	2018
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

MAGNESIUM DI-L-GLUTAMATE

INS 625 Magnesium di-L-glutamate Functional Class: Flavour enhancer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
12.1.2	Salt Substitutes	GMP		2015

MAGNESIUM HYDROXIDE

INS 528 Magnesium hydroxide Functional Class: Acidity regulator, Colour retention agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.3	Fluid buttermilk (plain)	GMP	261	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP		2013
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	16 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2013

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.4	Cooked and/or fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP		2013
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS167, XS189, XS222, XS236, XS244 & XS311	2018
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2013
12.1.2	Salt Substitutes	GMP		2013
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2013

MAGNESIUM HYDROXIDE CARBONATE

INS 504(ii) Magnesium hydroxide carbonate Functional Class: Acidity regulator, Anticaking agent, Carrier, Colour retention agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.3	Fluid buttermilk (plain)	GMP	261	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP		2013
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	16 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2013
09.2.4	Cooked and/or fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP		2013
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS167, XS189, XS222, XS236, XS244 & XS311	2018
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2013
12.1.2	Salt Substitutes	GMP		2013
12.2.1	Herbs and spices	GMP	534	2021
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2013

MAGNESIUM OXIDE

INS 530 Magnesium oxide Functional Class: Acidity regulator, Anticaking agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.8.2	Dried whey and whey products, excluding whey cheeses	10000 mg/kg		2006
12.1.1	Salt	GMP		2006
12.2.1	Herbs and spices	GMP	534	2021

MAGNESIUM SILICATE, SYNTHETIC

INS 553(i) Magnesium silicate, synthetic Functional Class: Anticaking agent

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.6.1	Unripened cheese	GMP	488, XS273, XS275	2021
01.6.2.1	Ripened cheese, includes rind	GMP	459, 461, 502, XS208, XS274, XS276, XS277, XS278	2021
01.8.2	Dried whey and whey products, excluding whey cheeses	10000 mg/kg		2006
11.1.2	Powdered sugar, powdered dextrose	15000 mg/kg	56, 465	2019
12.1.1	Salt	GMP		2006
12.1.2	Salt Substitutes	GMP		2015
12.2.1	Herbs and spices	GMP	534	2021

MAGNESIUM STEARATE

INS 470(iii) Magnesium stearate Functional Class: Anticaking agent, Emulsifier, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
12.2.1	Herbs and spices	GMP	534	2021

MAGNESIUM SULFATE

INS 518 Magnesium sulfate Functional Class: Firming agent, Flavour enhancer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
12.1.2	Salt Substitutes	GMP		2015

MALIC ACID, DL-

INS 296 Malic acid, DL- Functional Class: Acidity regulator, Sequestrant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP		2013
01.6.6	Whey protein cheese	GMP		2006
04.2.2.1	Frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	GMP	265	2013
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
06.4.2	Dried pastas and noodles and like products	GMP	256	2013
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2013

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.4	Cooked and/or fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP		2013
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS167, XS189, XS222, XS236, XS244 & XS311	2013
12.1.2	Salt Substitutes	GMP		2013
13.2	Complementary foods for infants and young children	GMP	239	2013
14.1.2.1	Fruit juice	GMP	115	2005
14.1.2.2	Vegetable juice	GMP		2013
14.1.2.3	Concentrates for fruit juice	GMP	115 & 127	2005
14.1.2.4	Concentrates for vegetable juice	GMP		2013
14.1.3.1	Fruit nectar	GMP		2005
14.1.3.2	Vegetable nectar	GMP		2013
14.1.3.3	Concentrates for fruit nectar	GMP	127	2005
14.1.3.4	Concentrates for vegetable nectar	GMP		2013
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2013

MALTITOL

INS 965(i) Maltitol

Functional Class: Bulking agent, Emulsifier, Humectant, Stabilizer, Sweetener, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160 & 477	2021

MALTITOL SYRUP

INS 965(ii) Maltitol syrup

Functional Class: Bulking agent, Emulsifier, Humectant, Stabilizer, Sweetener, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160 & 477	2021

MALTOL

INS 636 Maltol

Functional Class: Flavour enhancer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	200 mg/kg		2016
03.0	Edible ices, including sherbet and sorbet	200 mg/kg		2016
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	200 mg/kg	XS309R	2017

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
05.3	Chewing gum	200 mg/kg		2017

MANNITOL

INS 421 Mannitol Functional Class: Anticaking agent, Bulking agent, Humectant, Stabilizer, Sweetener, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.2	Renneted milk (plain)	GMP		2013
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2015
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP		2014
09.2.4.1	Cooked fish and fish products	GMP	241	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, XS167, XS189, XS222, XS236, XS244 & XS311	2018
10.2.2	Frozen egg products	GMP		2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
12.2.1	Herbs and spices	GMP	534	2021

METHACRYLATE COPOLYMER, BASIC (BMC)

INS 1205 Methacrylate copolymer, basic Functional Class: Carrier, Glazing agent (BMC)

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
06.2.1	Flours	GMP		2021
12.1.1	Salt	GMP		2021

METHYL CELLULOSE

INS 461 Methyl cellulose Functional Class: Bulking agent, Emulsifier, Glazing agent, Stabilizer, Thickener

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	332, 391, XS36, XS92, XS95, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	177 & 332	2015
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2014
09.2.4.1	Cooked fish and fish products	GMP	16 & 325	2015
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	GMP	16	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41, 325 & 332	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, 332, XS167, XS189, XS222, XS236, XS244 & XS311	2018
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

METHYL ETHYL CELLULOSE

INS 465

Methyl ethyl cellulose

Functional Class: Emulsifier, Foaming agent, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	63	2014
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2014
09.2.4.1	Cooked fish and fish products	GMP	241	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, XS167, XS189, XS222, XS236, XS244 & XS311	2018
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

MICROCRYSTALLINE CELLULOSE (CELLULOSE GEL)

INS 460(i) Microcrystalline cellulose Functional Class: Anticaking agent, Bulking agent, Carrier, Emulsifier, Foaming agent, Glazing agent, Stabilizer, Thickener
(Cellulose gel)

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	407 & 438	2019
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
01.8.2	Dried whey and whey products, excluding whey cheeses	10000 mg/kg		2006
06.4.1	Fresh pastas and noodles and like products	GMP	211	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	16, XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41, 325, 332 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP		2015
09.2.4.1	Cooked fish and fish products	GMP	16 & 325	2015
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	GMP	16	2015

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41, 325 & 332	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, 332, XS167, XS189, XS222, XS236, XS244 & XS311	2018
10.2.1	Liquid egg products	GMP		2014
10.2.2	Frozen egg products	GMP		2014
11.2	Brown sugar excluding products of food category 11.1.3	GMP		2015
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
12.2.1	Herbs and spices	GMP	534	2021
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

MICROCRYSTALLINE WAX

INS 905c(i) Microcrystalline wax

Functional Class: Antifoaming agent, Glazing agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.6.2.2	Rind of ripened cheese	30000 mg/kg		2004
04.1.1.2	Surface-treated fresh fruit	50 mg/kg		2004
04.2.1.2	Surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	50 mg/kg		2004
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	GMP	3 & XS309R	2017
05.3	Chewing gum	20000 mg/kg	3	2001

MINERAL OIL, HIGH VISCOSITY

INS 905d Mineral oil, high viscosity

Functional Class: Antifoaming agent, Glazing agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.2.2	Dried fruit	5000 mg/kg		2005
05.1	Cocoa products and chocolate products including imitations and chocolate substitutes	2000 mg/kg	3, XS86, XS87, XS105 & XS141	2016
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	2000 mg/kg	3 & XS309R	2017
05.3	Chewing gum	20000 mg/kg		2004
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	2000 mg/kg	3	2004
06.1	Whole, broken, or flaked grain, including rice	800 mg/kg	98 & XS202	2019
07.0	Bakery wares	3000 mg/kg	125	2004

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
08.2.3	Frozen processed meat, poultry, and game products in whole pieces or cuts	950 mg/kg	3	2004
08.3.3	Frozen processed comminuted meat, poultry, and game products	950 mg/kg	3	2004

MINERAL OIL, MEDIUM VISCOSITY

INS 905e Mineral oil, medium viscosity Functional Class: Glazing agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.2.2	Dried fruit	5000 mg/kg		2005
05.0	Confectionery	2000 mg/kg	3, XS86, XS87, XS105, XS309R & XS141	2017
07.1.1	Breads and rolls	3000 mg/kg	36 & 126	2004

MONO- AND DI-GLYCERIDES OF FATTY ACIDS

INS 471 Mono- and di-glycerides of fatty acids Functional Class: Antifoaming agent, Emulsifier, Glazing agent, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	410	2018
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2015
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2015
01.2.2	Renneted milk (plain)	GMP		2015
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
02.1.1	Butter oil, anhydrous milkfat, ghee	GMP	507	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	GMP	525	2021
04.1.1.2	Surface-treated fresh fruit	GMP	453	2019
04.2.1.2	Surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	GMP	455	2019
06.4.1	Fresh pastas and noodles and like products	GMP		2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2015
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP		2015
09.2.4.1	Cooked fish and fish products	GMP	241	2015

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, XS167, XS189, XS222, XS236, XS244 & XS311	2018
10.2.1	Liquid egg products	GMP		2015
10.2.2	Frozen egg products	GMP		2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
13.1.1	Infant formulae	4000 mg/kg	72	2014
13.1.2	Follow-up formulae	4000 mg/kg	72	2014
13.1.3	Formulae for special medical purposes for infants	4000 mg/kg	72	2014
13.2	Complementary foods for infants and young children	5000 mg/kg	268 & 275	2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

MONOAMMONIUM L-GLUTAMATE

INS 624 Monoammonium L-glutamate Functional Class: Flavour enhancer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
08.1	Fresh meat, poultry, and game	GMP	16	2014
12.1.2	Salt Substitutes	GMP		2015

MONOPOTASSIUM L-GLUTAMATE

INS 622 Monopotassium L-glutamate Functional Class: Flavour enhancer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2015
12.1.2	Salt Substitutes	GMP		2015

MONOSODIUM L-GLUTAMATE

INS 621 Monosodium L-glutamate Functional Class: Flavour enhancer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.1	Frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	GMP	201	2014

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP	279	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1	Fresh meat, poultry, and game	GMP	16	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	95, XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2015
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	311	2015
09.2.4	Cooked and/or fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	312	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	29, 313, XS167, XS189, XS236, XS244 & XS311	2018
12.1.2	Salt Substitutes	GMP		2015
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	201	2015

MONOSTARCH PHOSPHATE

INS 1410 Monostarch phosphate Functional Class: Emulsifier, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	63	2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
13.2	Complementary foods for infants and young children	50000 mg/kg	239 & 269	2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

NATAMYCIN (PIMARICIN)

INS 235 Natamycin (Pimaricin) Functional Class: Preservative

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
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Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.6.1	Unripened cheese	40 mg/kg	3, 80, 486, XS273, XS275	2021
01.6.2	Ripened cheese	40 mg/kg	3, 80, XS208, XS274, XS276, XS277, XS278	2021
01.6.4	Processed cheese	40 mg/kg	3 & 80	2006
01.6.5	Cheese analogues	40 mg/kg	3 & 80	2006
01.6.6	Whey protein cheese	40 mg/kg	3 & 80	2006
08.2.1.2	Cured (including salted) and dried non-heat treated processed meat, poultry, and game products in whole pieces or cuts	6 mg/kg		2001
08.3.1.2	Cured (including salted) and dried non-heat treated processed comminuted meat, poultry, and game products	20 mg/kg	3 & 81	2001

NEOTAME

INS 961

Neotame

Functional Class: Flavour enhancer, Sweetener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	20 mg/kg	478	2019
01.3.2	Beverage whiteners	65 mg/kg	201, 478, XS250, XS252	2021
01.4.4	Cream analogues	33 mg/kg	478 & 68	2021
01.5.2	Milk and cream powder analogues	65 mg/kg	478, XS251 & 408	2021
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	100 mg/kg	478	2019
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	100 mg/kg	478	2021
03.0	Edible ices, including sherbet and sorbet	100 mg/kg	478	2019
04.1.2.1	Frozen fruit	100 mg/kg	478 & 358	2021
04.1.2.3	Fruit in vinegar, oil, or brine	100 mg/kg	144	2021
04.1.2.4	Canned or bottled (pasteurized) fruit	33 mg/kg	478 & XS319	2021
04.1.2.5	Jams, jellies, marmelades	70 mg/kg	478	2019
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	70 mg/kg	478	2019
04.1.2.7	Candied fruit	100 mg/kg	478	2021
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	100 mg/kg	478	2019
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	100 mg/kg	478	2019
04.1.2.10	Fermented fruit products	65 mg/kg	478	2019
04.1.2.11	Fruit fillings for pastries	100 mg/kg	478	2021
04.1.2.12	Cooked fruit	65 mg/kg	478	2019

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.2	Dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	33 mg/kg	144 & 348	2021
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	10 mg/kg	144	2007
04.2.2.4	Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	33 mg/kg	478	2021
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	33 mg/kg	478	2021
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	33 mg/kg	478	2021
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	33 mg/kg	144	2021
04.2.2.8	Cooked or fried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	33 mg/kg	144, 478 & 345	2021
05.1.2	Cocoa mixes (syrups)	33 mg/kg	97 & 478	2021
05.1.3	Cocoa-based spreads, including fillings	100 mg/kg	478 & XS86	2019
05.1.4	Cocoa and chocolate products	80 mg/kg	478 & XS87	2019
05.1.5	Imitation chocolate, chocolate substitute products	100 mg/kg	478	2021
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	330 mg/kg	158, 478 & XS309R	2019
05.3	Chewing gum	1000 mg/kg	478	2019
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	100 mg/kg	478	2019
06.3	Breakfast cereals, including rolled oats	160 mg/kg	478	2019
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	33 mg/kg	478	2021
07.1	Bread and ordinary bakery wares	70 mg/kg	161	2008
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	80 mg/kg	165 & 478	2021
09.3	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms	10 mg/kg	144 & XS291	2021
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	10 mg/kg	144, XS3, XS37, XS70, XS90, XS94 & XS119	2021
10.4	Egg-based desserts (e.g. custard)	100 mg/kg	478	2019
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	70 mg/kg	159	2007
11.6	Table-top sweeteners, including those containing high-intensity sweeteners	GMP		2007
12.2	Herbs, spices, seasonings and condiments (e.g. seasoning for instant noodles)	32 mg/kg	161, XS326, XS327, XS328	2021

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
12.3	Vinegars	12 mg/kg	478 & 277	2021
12.4	Mustards	12 mg/kg		2007
12.5	Soups and broths	20 mg/kg	478 & XS117	2019
12.6.1	Emulsified sauces and dips (e.g. mayonnaise, salad dressing, onion dip)	65 mg/kg		2007
12.6.2	Non-emulsified sauces (e.g. ketchup, cheese sauce, cream sauce, brown gravy)	70 mg/kg		2007
12.6.3	Mixes for sauces and gravies	12 mg/kg		2007
12.6.4	Clear sauces (e.g. fish sauce)	12 mg/kg	XS302	2018
12.7	Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	33 mg/kg	166 & 478	2021
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	33 mg/kg		2007
13.4	Dietetic formulae for slimming purposes and weight reduction	33 mg/kg		2007
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	65 mg/kg		2007
13.6	Food supplements	90 mg/kg		2007
14.1.3.2	Vegetable nectar	65 mg/kg	478	2021
14.1.3.4	Concentrates for vegetable nectar	65 mg/kg	127 & 478	2021
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	33 mg/kg	478	2019
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	50 mg/kg	160	2007
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	33 mg/kg		2007
15.0	Ready-to-eat savouries	32 mg/kg		2007

NISIN

INS 234 Nisin Functional Class: Preservative

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	12.5 mg/kg	233 & 403	2017
01.4.3	Clotted cream (plain)	10 mg/kg		2009
01.6.1	Unripened cheese	12.5 mg/kg	233	2016
01.6.2	Ripened cheese	12.5 mg/kg	233, XS208, XS274, XS276, XS277, XS278	2021
01.6.4	Processed cheese	12.5 mg/kg	233	2018
01.6.5	Cheese analogues	12.5 mg/kg		2010
01.6.6	Whey protein cheese	12.5 mg/kg		2006
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	12.5 mg/kg	233 & 362	2016

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	3 mg/kg		2010
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	6.25 mg/kg	233	2016
08.2.2	Heat-treated processed meat, poultry, and game products in whole pieces or cuts	25 mg/kg	233, 330, XS96 & XS97	2015
08.3.2	Heat-treated processed comminuted meat, poultry, and game products	25 mg/kg	233 & 377	2016
08.4	Edible casings (e.g. sausage casings)	7 mg/kg	233	2015
10.2.1	Liquid egg products	6.25 mg/kg	233	2018
12.5.1	Ready-to-eat soups and broths, including canned, bottled, and frozen	5 mg/kg	233, 339	2018
12.6.1	Emulsified sauces and dips (e.g. mayonnaise, salad dressing, onion dip)	5 mg/kg	233 & 538	2021
12.6.2	Non-emulsified sauces (e.g. ketchup, cheese sauce, cream sauce, brown gravy)	5 mg/kg	233, XS306R & 538	2021
12.6.4	Clear sauces (e.g. fish sauce)	5 mg/kg	233, XS302 & 538	2021
12.7	Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	5 mg/kg	233 & 538	2021

NITRATES

INS 251 Sodium nitrate Functional Class: Colour retention agent, Preservative

INS 252 Potassium nitrate Functional Class: Colour retention agent, Preservative

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.6.2	Ripened cheese	35 mg/kg	30, 464, XS208, XS274, XS276, XS277, XS278	2021

NITRITES

INS 249 Potassium nitrite Functional Class: Colour retention agent, Preservative

INS 250 Sodium nitrite Functional Class: Colour retention agent, Preservative

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
08.2.2	Heat-treated processed meat, poultry, and game products in whole pieces or cuts	80 mg/kg	32 & 288	2014
08.3	Processed comminuted meat, poultry, and game products	80 mg/kg	32, 286 & 287	2014

NITROGEN

INS 941 Nitrogen Functional Class: Foaming agent, Packaging gas, Propellant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.1	Fluid milk (plain)	GMP	59	2017

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	59	2018
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	59	2014
01.2.2	Renneted milk (plain)	GMP	59	2014
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP	59 & 278	2014
04.1.1.3	Peeled or cut fresh fruit	GMP	59	2014
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	59, 382, XS167, XS189, XS222, XS236 & XS244	2018
13.1.1	Infant formulae	GMP	59	2015
13.1.3	Formulae for special medical purposes for infants	GMP	59	2015
13.2	Complementary foods for infants and young children	GMP	59	2015
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	59 & 160	2015

NITROUS OXIDE

INS 942 Nitrous oxide Functional Class: Antioxidant, Foaming agent, Packaging gas, Propellant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	59	2014
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP	59 & 278	2014
04.1.1.3	Peeled or cut fresh fruit	GMP		2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
09.1.2	Fresh mollusks, crustaceans, and echinoderms	GMP	390, XS312 & XS315	2017
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	308, 392, XS36, XS92, XS95, XS165, XS190, XS191, XS312 & XS315	2017
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP		2015

ORTHO-PHENYLPHENOLS

INS 231 ortho-Phenylphenol Functional Class: Preservative

INS 232 Sodium ortho-phenylphenol Functional Class: Preservative

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.1.2	Surface-treated fresh fruit	12 mg/kg	49	1999

Table One

OXIDIZED STARCH

INS 1404

Oxidized starch

Functional Class: Emulsifier, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP	236	2013
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	63	2014
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2014
09.2.4.1	Cooked fish and fish products	GMP	241	2014
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2014
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, XS167, XS189, XS222, XS236, XS244 & XS311	2018
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
13.2	Complementary foods for infants and young children	50000 mg/kg	239 & 269	2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

PAPRIKA EXTRACT

INS 160c(ii)

Paprika extract

Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
05.1.3	Cocoa-based spreads, including fillings	95 mg/kg	39 & XS86	2021
05.1.4	Cocoa and chocolate products	95 mg/kg	39 & 183	2021
05.1.5	Imitation chocolate, chocolate substitute products	95 mg/kg	39	2021
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	100 mg/kg	39	2019
05.3	Chewing gum	150 mg/kg	39	2019

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	100 mg/kg	39	2019
13.6	Food supplements	100 mg/kg	39 & 539	2021
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	30 mg/kg	39 & 127	2021
14.2.2	Cider and perry	10 mg/kg	39	2021
14.2.4	Wines (other than grape)	10 mg/kg	39	2021
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	10 mg/kg	39	2021

PECTINS

INS 440

Pectins

Functional Class: Emulsifier, Gelling agent, Glazing agent, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	407 & 438	2019
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
04.1.1.2	Surface-treated fresh fruit	GMP	454	2021
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
06.4.1	Fresh pastas and noodles and like products	GMP	211	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2015
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	16, 391, XS36, XS92, XS95, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	177	2014
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP		2014
09.2.4.1	Cooked fish and fish products	GMP	241	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2015

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, XS167, XS189, XS222, XS236, XS244 & XS311	2018
10.2.1	Liquid egg products	GMP		2014
10.2.2	Frozen egg products	GMP		2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
13.1.2	Follow-up formulae	10000 mg/kg	72	2014
13.1.3	Formulae for special medical purposes for infants	2000 mg/kg	14 & 72	2021
13.2	Complementary foods for infants and young children	10000 mg/kg	273, 282 & 283	2014
14.1.2.1	Fruit juice	GMP	35	2005
14.1.2.3	Concentrates for fruit juice	GMP	35 & 127	2005
14.1.3.1	Fruit nectar	GMP		2005
14.1.3.2	Vegetable nectar	GMP		2014
14.1.3.3	Concentrates for fruit nectar	GMP	127	2005
14.1.3.4	Concentrates for vegetable nectar	GMP		2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

PHOSPHATED DISTARCH PHOSPHATE

INS 1413 Phosphated distarch phosphate Functional Class: Emulsifier, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
06.4.1	Fresh pastas and noodles and like products	GMP	211	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	63	2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
13.1.1	Infant formulae	5000 mg/kg	72, 150, 284 & 292	2014
13.1.2	Follow-up formulae	5000 mg/kg	72, 150, 285 & 292	2014
13.1.3	Formulae for special medical purposes for infants	5000 mg/kg	72, 150 & 292	2014

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
13.2	Complementary foods for infants and young children	50000 mg/kg	269 & 270	2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

Table One

PHOSPHATES

INS 338	Phosphoric acid	Functional Class: Acidity regulator, Antioxidant, Sequestrant
INS 339(i)	Sodium dihydrogen phosphate	Functional Class: Acidity regulator, Emulsifier, Emulsifying salt, Humectant, Raising agent, Sequestrant, Stabilizer, Thickener
INS 339(ii)	Disodium hydrogen phosphate	Functional Class: Acidity regulator, Emulsifier, Emulsifying salt, Humectant, Sequestrant, Stabilizer, Thickener
INS 339(iii)	Trisodium phosphate	Functional Class: Acidity regulator, Emulsifier, Humectant, Preservative, Sequestrant, Stabilizer, Thickener
INS 340(i)	Potassium dihydrogen phosphate	Functional Class: Acidity regulator, Emulsifier, Humectant, Sequestrant, Stabilizer, Thickener
INS 340(ii)	Dipotassium hydrogen phosphate	Functional Class: Acidity regulator, Emulsifier, Humectant, Sequestrant, Stabilizer, Thickener
INS 340(iii)	Tripotassium phosphate	Functional Class: Acidity regulator, Emulsifier, Emulsifying salt, Humectant, Sequestrant, Stabilizer, Thickener
INS 341(i)	Calcium dihydrogen phosphate	Functional Class: Acidity regulator, Anticaking agent, Emulsifying salt, Firming agent, Flour treatment agent, Humectant, Raising agent, Sequestrant, Stabilizer, Thickener
INS 341(ii)	Calcium hydrogen phosphate	Functional Class: Acidity regulator, Anticaking agent, Emulsifying salt, Firming agent, Flour treatment agent, Humectant, Raising agent, Stabilizer, Thickener
INS 341(iii)	Tricalcium phosphate	Functional Class: Acidity regulator, Anticaking agent, Emulsifier, Emulsifying salt, Firming agent, Flour treatment agent, Humectant, Raising agent, Stabilizer, Thickener
INS 342(i)	Ammonium dihydrogen phosphate	Functional Class: Acidity regulator, Flour treatment agent, Raising agent, Stabilizer, Thickener
INS 342(ii)	Diammonium hydrogen phosphate	Functional Class: Acidity regulator, Flour treatment agent, Raising agent, Stabilizer, Thickener
INS 343(i)	Magnesium dihydrogen phosphate	Functional Class: Acidity regulator, Anticaking agent, Emulsifying salt, Stabilizer, Thickener
INS 343(ii)	Magnesium hydrogen phosphate	Functional Class: Acidity regulator, Anticaking agent, Emulsifying salt, Raising agent, Stabilizer, Thickener
INS 343(iii)	Trimagnesium phosphate	Functional Class: Acidity regulator, Anticaking agent, Stabilizer, Thickener
INS 450(i)	Disodium diphosphate	Functional Class: Acidity regulator, Emulsifier, Emulsifying salt, Humectant, Raising agent, Sequestrant, Stabilizer, Thickener
INS 450(ii)	Trisodium diphosphate	Functional Class: Acidity regulator, Emulsifier, Emulsifying salt, Humectant, Raising agent, Sequestrant, Stabilizer, Thickener
INS 450(iii)	Tetrasodium diphosphate	Functional Class: Acidity regulator, Emulsifier, Emulsifying salt, Humectant, Raising agent, Sequestrant, Stabilizer, Thickener
INS 450(ix)	Magnesium dihydrogen diphosphate	Functional Class: Acidity regulator, Raising agent, Stabilizer
INS 450(v)	Tetrapotassium diphosphate	Functional Class: Acidity regulator, Emulsifier, Emulsifying salt, Humectant, Raising agent, Sequestrant, Stabilizer, Thickener
INS 450(vi)	Dicalcium diphosphate	Functional Class: Acidity regulator, Emulsifier, Emulsifying salt, Firming agent, Raising agent, Sequestrant, Stabilizer, Thickener
INS 450(vii)	Calcium dihydrogen diphosphate	Functional Class: Acidity regulator, Emulsifier, Emulsifying salt, Humectant, Raising agent, Sequestrant, Stabilizer
INS 451(i)	Pentasodium triphosphate	Functional Class: Acidity regulator, Emulsifier, Emulsifying salt, Humectant, Sequestrant, Stabilizer, Thickener
INS 451(ii)	Pentapotassium triphosphate	Functional Class: Acidity regulator, Emulsifier, Emulsifying salt, Humectant, Sequestrant, Stabilizer, Thickener
INS 452(i)	Sodium polyphosphate	Functional Class: Acidity regulator, Emulsifier, Emulsifying salt, Humectant, Raising agent, Sequestrant, Stabilizer, Thickener
INS 452(ii)	Potassium polyphosphate	Functional Class: Acidity regulator, Emulsifier, Emulsifying salt, Humectant, Raising agent, Sequestrant, Stabilizer, Thickener

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INS 452(iii)	Sodium calcium polyphosphate	Functional Class: Acidity regulator, Emulsifier, Humectant, Raising agent, Sequestrant, Stabilizer
INS 452(iv)	Calcium polyphosphate	Functional Class: Acidity regulator, Emulsifier, Emulsifying salt, Humectant, Raising agent, Sequestrant, Stabilizer, Thickener
INS 452(v)	Ammonium polyphosphate	Functional Class: Acidity regulator, Emulsifier, Emulsifying salt, Humectant, Sequestrant, Stabilizer, Thickener
INS 542	Bone phosphate	Functional Class: Anticaking agent, Emulsifier, Humectant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.1	Fluid milk (plain)	1500 mg/kg	33 & 227	2012
01.1.2	Other fluid milk (plain)	2200 mg/kg	33, 364, 411	2018
01.1.3	Fluid buttermilk (plain)	1500 mg/kg	33, 227 & 397	2017
01.1.4	Flavoured fluid milk drinks	1500 mg/kg	33, 364 & 398	2017
01.2	Fermented and renneted milk products (plain)	1000 mg/kg	33	2010
01.3.1	Condensed milk (plain)	880 mg/kg	33	2012
01.3.2	Beverage whiteners	13000 mg/kg	33 & 480	2021
01.4	Cream (plain) and the like	2200 mg/kg	33	2012
01.5.1	Milk powder and cream powder (plain)	4400 mg/kg	33	2012
01.5.2	Milk and cream powder analogues	4400 mg/kg	33, 88, 482 & 483	2021
01.6.1	Unripened cheese	4400 mg/kg	33, 487, 495, 496	2021
01.6.4	Processed cheese	9000 mg/kg	33	2012
01.6.5	Cheese analogues	9000 mg/kg	33	2012
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	1500 mg/kg	33	2012
01.8.1	Liquid whey and whey products, excluding whey cheeses	880 mg/kg	33 & 228	2012
01.8.2	Dried whey and whey products, excluding whey cheeses	4400 mg/kg	33	2006
02.2.1	Butter	880 mg/kg	33 & 34	2008
02.2.2	Fat spreads, dairy fat spreads and blended spreads	2200 mg/kg	33, 530	2021
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	2200 mg/kg	33	2009
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	1500 mg/kg	33	2012
03.0	Edible ices, including sherbet and sorbet	7500 mg/kg	33	2012
04.1.2.3	Fruit in vinegar, oil, or brine	2200 mg/kg	33	2012
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	1100 mg/kg	33	2009
04.1.2.7	Candied fruit	10 mg/kg	33	2012
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	350 mg/kg	33	2012
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	1500 mg/kg	33	2012
04.1.2.10	Fermented fruit products	2200 mg/kg	33	2009

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.2.11	Fruit fillings for pastries	1500 mg/kg	33	2012
04.2.1.2	Surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	1760 mg/kg	16 & 33	2009
04.2.1.3	Peeled, cut or shredded fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	5600 mg/kg	33 & 76	2012
04.2.2.1	Frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	5000 mg/kg	33 & 76	2012
04.2.2.2	Dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	5000 mg/kg	33 & 76	2012
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	2200 mg/kg	33	2012
04.2.2.4	Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	2200 mg/kg	33	2012
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	2200 mg/kg	33 & 76	2012
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	2200 mg/kg	33	2012
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	2200 mg/kg	33	2010
04.2.2.8	Cooked or fried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	2200 mg/kg	33 & 76	2012
05.1.1	Cocoa mixes (powders) and cocoa mass/cake	1100 mg/kg	33, 97	2016
05.1.3	Cocoa-based spreads, including fillings	880 mg/kg	33 & XS86	2016
05.1.4	Cocoa and chocolate products	1100 mg/kg	33	2012
05.1.5	Imitation chocolate, chocolate substitute products	2200 mg/kg	33	2009
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	2200 mg/kg	33 & XS309R	2017
05.3	Chewing gum	44000 mg/kg	33	2012
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	1500 mg/kg	33	2012
06.2.1	Flours	2500 mg/kg	33, 225, 469	2019
06.3	Breakfast cereals, including rolled oats	2200 mg/kg	33	2009
06.4.1	Fresh pastas and noodles and like products	2500 mg/kg	33 & 211	2012
06.4.2	Dried pastas and noodles and like products	900 mg/kg	33 & 211	2012
06.4.3	Pre-cooked pastas and noodles and like products	2500 mg/kg	33, 211, 475	2019
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	7000 mg/kg	33	2012

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
06.6	Batters (e.g. for breading or batters for fish or poultry)	5600 mg/kg	33	2012
06.8.1	Soybean-based beverages	1300 mg/kg	33	2012
06.8.3	Soybean curd (tofu)	100 mg/kg	33	2012
07.1.1.2	Soda breads	9300 mg/kg	33 & 229	2012
07.1.2	Crackers, excluding sweet crackers	9300 mg/kg	33 & 229	2012
07.1.3	Other ordinary bakery products (e.g. bagels, pita, English muffins)	9300 mg/kg	33 & 229	2012
07.1.4	Bread-type products, including bread stuffing and bread crumbs	9300 mg/kg	33 & 229	2012
07.1.5	Steamed breads and buns	9300 mg/kg	33 & 229	2012
07.1.6	Mixes for bread and ordinary bakery wares	9300 mg/kg	33 & 229	2012
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	9300 mg/kg	33 & 229	2012
08.2.1	Non-heat treated processed meat, poultry, and game products in whole pieces or cuts	2200 mg/kg	33	2012
08.2.2	Heat-treated processed meat, poultry, and game products in whole pieces or cuts	1320 mg/kg	33 & 289	2014
08.2.3	Frozen processed meat, poultry, and game products in whole pieces or cuts	2200 mg/kg	33	2009
08.3	Processed comminuted meat, poultry, and game products	2200 mg/kg	33, 302 & XS88	2015
08.4	Edible casings (e.g. sausage casings)	1100 mg/kg	33	2010
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	2200 mg/kg	33, 393, 394, XS36, XS191, XS292 & XS312	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	2200 mg/kg	33 & 299	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	2200 mg/kg	33	2012
09.2.4.1	Cooked fish and fish products	2200 mg/kg	33	2012
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	2200 mg/kg	33	2012
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	2200 mg/kg	33, 334, XS167, XS189, XS236, XS244, XS311, 413, 420	2018
09.3.1	Fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly	2200 mg/kg	33	2012
09.3.2	Fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine	2200 mg/kg	33	2012
09.3.3	Salmon substitutes, caviar, and other fish roe products	2200 mg/kg	33 & XS291	2018
09.3.4	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g. fish paste), excluding products of food categories 09.3.1 - 09.3.3	2200 mg/kg	33 & 193	2010
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	2200 mg/kg	33, 436, XS3, XS94 & XS119	2018
10.2.1	Liquid egg products	4400 mg/kg	33 & 67	2009
10.2.2	Frozen egg products	1290 mg/kg	33	2009
10.3	Preserved eggs, including alkaline, salted, and canned eggs	1000 mg/kg	33	2012

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
10.4	Egg-based desserts (e.g. custard)	1400 mg/kg	33	2012
11.1.2	Powdered sugar, powdered dextrose	6600 mg/kg	33, 56, 465	2019
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	1320 mg/kg	33	2009
11.6	Table-top sweeteners, including those containing high-intensity sweeteners	1000 mg/kg	33	2009
12.1.1	Salt	8800 mg/kg	33	2006
12.1.2	Salt Substitutes	4400 mg/kg	33	2012
12.2.2	Seasonings and condiments	2200 mg/kg	33 & 226	2012
12.5	Soups and broths	1500 mg/kg	33 & 343	2015
12.6	Sauces and like products	2200 mg/kg	33 & XS302	2018
12.9	Soybean-based seasonings and condiments	1200 mg/kg	33	2012
13.2	Complementary foods for infants and young children	4400 mg/kg	33 & 230	2012
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	2200 mg/kg	33	2009
13.4	Dietetic formulae for slimming purposes and weight reduction	2200 mg/kg	33	2009
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	2200 mg/kg	33	2009
13.6	Food supplements	2200 mg/kg	33	2010
14.1.2.1	Fruit juice	1000 mg/kg	33, 40 & 122	2005
14.1.2.3	Concentrates for fruit juice	1000 mg/kg	33, 40, 122 & 127	2005
14.1.3.1	Fruit nectar	1000 mg/kg	33, 40 & 122	2005
14.1.3.3	Concentrates for fruit nectar	1000 mg/kg	33, 40, 122 & 127	2005
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	1000 mg/kg	33	2012
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	300 mg/kg	33 & 160	2012
14.2.2	Cider and perry	880 mg/kg	33	2010
14.2.5	Mead	440 mg/kg	33 & 88	2009
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	440 mg/kg	33 & 88	2009
15.0	Ready-to-eat savouries	2200 mg/kg	33	2009

POLYDEXTROSES

INS 1200 Polydextroses Functional Class: Bulking agent, Glazing agent, Humectant, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	407 & 438	2019
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2015

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2015
01.2.2	Renneted milk (plain)	GMP		2015
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP	236	2013
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.4.1	Cooked fish and fish products	GMP	241	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2015
10.2.1	Liquid egg products	GMP		2014
10.2.2	Frozen egg products	GMP		2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014

POLYDIMETHYLSILOXANE

INS 900a

Polydimethylsiloxane

Functional Class: Anticaking agent, Antifoaming agent, Emulsifier

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.5.1	Milk powder and cream powder (plain)	10 mg/kg		1999
02.1.2	Vegetable oils and fats	10 mg/kg	511, 524, XS33	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	10 mg/kg	523, XS211	2021
02.2.2	Fat spreads, dairy fat spreads and blended spreads	10 mg/kg	152	2007
04.1.2.3	Fruit in vinegar, oil, or brine	10 mg/kg		1999
04.1.2.4	Canned or bottled (pasteurized) fruit	10 mg/kg	266	2018
04.1.2.5	Jams, jellies, marmelades	30 mg/kg		1999
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	10 mg/kg		1999
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	110 mg/kg		1999
04.1.2.10	Fermented fruit products	10 mg/kg		2008
04.2.2.1	Frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	10 mg/kg	15	1999
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	10 mg/kg		1999
04.2.2.4	Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	10 mg/kg		1999
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	10 mg/kg		1999

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	50 mg/kg		2004
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	10 mg/kg		2008
05.1.5	Imitation chocolate, chocolate substitute products	10 mg/kg		1999
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	10 mg/kg	XS309R	2017
05.3	Chewing gum	100 mg/kg		1999
06.4.3	Pre-cooked pastas and noodles and like products	50 mg/kg	153	2007
06.6	Batters (e.g. for breading or batters for fish or poultry)	10 mg/kg		1999
12.5	Soups and broths	10 mg/kg		1999
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	50 mg/kg		2004
13.4	Dietetic formulae for slimming purposes and weight reduction	50 mg/kg		2004
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	50 mg/kg		2004
13.6	Food supplements	50 mg/kg		2004
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	20 mg/kg		1999
14.2.1	Beer and malt beverages	10 mg/kg		1999
14.2.2	Cider and perry	10 mg/kg		1999
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	10 mg/kg		1999

POLYETHYLENE GLYCOL

INS 1521 Polyethylene glycol Functional Class: Antifoaming agent, Carrier, Emulsifier, Glazing agent, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.1.2	Surface-treated fresh fruit	GMP		2001
05.3	Chewing gum	20000 mg/kg		2001
11.6	Table-top sweeteners, including those containing high-intensity sweeteners	10000 mg/kg		2001
13.6	Food supplements	70000 mg/kg		2001
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	1000 mg/kg		2001

Table One

POLYGLYCEROL ESTERS OF FATTY ACIDS

INS 475 Polyglycerol esters of fatty acids Functional Class: Emulsifier, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	1000 mg/kg	410	2018
01.1.4	Flavoured fluid milk drinks	2000 mg/kg		2017
01.3.2	Beverage whiteners	5000 mg/kg	352, XS250 & XS252	2016
01.4.1	Pasteurized cream (plain)	6000 mg/kg		2016
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	6000 mg/kg		2016
01.4.3	Clotted cream (plain)	6000 mg/kg		2016
01.4.4	Cream analogues	8000 mg/kg		2016
01.5.2	Milk and cream powder analogues	5000 mg/kg	XS251	2016
01.6.4	Processed cheese	5000 mg/kg		2018
01.6.5	Cheese analogues	5000 mg/kg		2016
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	5000 mg/kg	354 & XS243	2016
02.2.2	Fat spreads, dairy fat spreads and blended spreads	5000 mg/kg	359	2016
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	20000 mg/kg	363	2016
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	2000 mg/kg		2016
03.0	Edible ices, including sherbet and sorbet	5000 mg/kg		2016
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	5000 mg/kg	XS240 & XS314R	2016
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	5000 mg/kg		2016
04.1.2.11	Fruit fillings for pastries	2000 mg/kg		2016
05.1.1	Cocoa mixes (powders) and cocoa mass/cake	5000 mg/kg	97 & XS141	2016
05.1.5	Imitation chocolate, chocolate substitute products	2000 mg/kg	366	2016
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	2000 mg/kg	367 & XS309R	2016
05.3	Chewing gum	5000 mg/kg		2016
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	2000 mg/kg	368	2016
06.3	Breakfast cereals, including rolled oats	10000 mg/kg	369	2016
06.4.3	Pre-cooked pastas and noodles and like products	2000 mg/kg	194	2016
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	9000 mg/kg		2016
07.1.1	Breads and rolls	10000 mg/kg	372	2016
07.1.2	Crackers, excluding sweet crackers	6000 mg/kg		2016
07.1.3	Other ordinary bakery products (e.g. bagels, pita, English muffins)	6000 mg/kg		2016

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
07.1.4	Bread-type products, including bread stuffing and bread crumbs	10000 mg/kg		2016
07.1.5	Steamed breads and buns	10000 mg/kg		2016
07.1.6	Mixes for bread and ordinary bakery wares	15000 mg/kg	11	2016
07.2.1	Cakes, cookies and pies (e.g. fruit-filled or custard types)	10000 mg/kg		2016
07.2.2	Other fine bakery products (e.g. doughnuts, sweet rolls, scones, and muffins)	10000 mg/kg		2016
07.2.3	Mixes for fine bakery wares (e.g. cakes, pancakes)	16000 mg/kg	451	2019
08.4	Edible casings (e.g. sausage casings)	5000 mg/kg	365	2017
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	5000 mg/kg	241	2018
09.2.4.1	Cooked fish and fish products	1000 mg/kg	412	2018
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	5000 mg/kg	41	2018
09.3.1	Fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly	1000 mg/kg	414	2018
09.3.2	Fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine	1000 mg/kg	415	2018
10.2	Egg products	1000 mg/kg		2018
10.4	Egg-based desserts (e.g. custard)	6000 mg/kg		2018
12.5.1	Ready-to-eat soups and broths, including canned, bottled, and frozen	400 mg/kg	XS117	2018
12.5.2	Mixes for soups and broths	3000 mg/kg	127, XS117	2018
12.6.1	Emulsified sauces and dips (e.g. mayonnaise, salad dressing, onion dip)	5000 mg/kg		2018
12.6.2	Non-emulsified sauces (e.g. ketchup, cheese sauce, cream sauce, brown gravy)	5000 mg/kg	XS306R	2018
12.6.3	Mixes for sauces and gravies	5000 mg/kg	127	2018
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	1000 mg/kg		2018
13.4	Dietetic formulae for slimming purposes and weight reduction	1000 mg/kg		2018
13.6	Food supplements	18000 mg/kg		2018
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	5000 mg/kg	127	2019
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	5000 mg/kg	127	2019
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	20 mg/kg		2018
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	2000 mg/kg		2018

POLYGLYCEROL ESTERS OF INTERESTERIFIED RICINOLEIC ACID

INS 476 Polyglycerol esters of interesterified ricinoleic acid Functional Class: Emulsifier

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.5.2	Milk and cream powder analogues	5000 mg/kg	XS251	2016
01.6.4	Processed cheese	500 mg/kg		2019
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	5000 mg/kg	XS243	2016
02.2.2	Fat spreads, dairy fat spreads and blended spreads	4000 mg/kg	359	2016
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	10000 mg/kg		2016
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	2000 mg/kg		2016
03.0	Edible ices, including sherbet and sorbet	5000 mg/kg		2016
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	2000 mg/kg		2016
04.1.2.11	Fruit fillings for pastries	2000 mg/kg		2016
05.1.1	Cocoa mixes (powders) and cocoa mass/cake	5000 mg/kg	97	2016
05.1.4	Cocoa and chocolate products	5000 mg/kg	101	2016
05.1.5	Imitation chocolate, chocolate substitute products	3000 mg/kg	366	2016
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	3000 mg/kg	XS309R	2016
05.3	Chewing gum	500 mg/kg		2017
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	5000 mg/kg		2016
06.4.3	Pre-cooked pastas and noodles and like products	500 mg/kg	194	2016
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	5000 mg/kg		2016
08.4	Edible casings (e.g. sausage casings)	5000 mg/kg	365	2017
09.2.4.1	Cooked fish and fish products	1000 mg/kg	412	2018
10.2	Egg products	1000 mg/kg		2018
10.4	Egg-based desserts (e.g. custard)	1000 mg/kg		2018
12.6.1	Emulsified sauces and dips (e.g. mayonnaise, salad dressing, onion dip)	5000 mg/kg		2018
12.6.3	Mixes for sauces and gravies	5000 mg/kg	127	2018

POLYOXYETHYLENE STEARATES

INS 430 Polyoxyethylene (8) stearate Functional Class: Emulsifier

INS 431 Polyoxyethylene (40) stearate Functional Class: Emulsifier

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
05.3	Chewing gum	200 mg/kg		2017
06.4.3	Pre-cooked pastas and noodles and like products	5000 mg/kg	2 & 194	2016
07.1	Bread and ordinary bakery wares	3000 mg/kg		2016
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	3000 mg/kg		2016

Table One

POLYSORBATES

INS 432	Polyoxyethylene (20) sorbitan monolaurate	Functional Class: Emulsifier, Stabilizer
INS 433	Polyoxyethylene (20) sorbitan monooleate	Functional Class: Emulsifier, Stabilizer
INS 434	Polyoxyethylene (20) sorbitan monopalmitate	Functional Class: Emulsifier
INS 435	Polyoxyethylene (20) sorbitan monostearate	Functional Class: Emulsifier, Stabilizer
INS 436	Polyoxyethylene (20) sorbitan tristearate	Functional Class: Emulsifier, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	3000 mg/kg		2008
01.3.2	Beverage whiteners	4000 mg/kg	XS250 & XS252	2021
01.4.1	Pasteurized cream (plain)	1000 mg/kg		2008
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	1000 mg/kg		2008
01.4.3	Clotted cream (plain)	1000 mg/kg		2008
01.4.4	Cream analogues	5000 mg/kg		2005
01.5.2	Milk and cream powder analogues	4000 mg/kg	XS251	2021
01.6.1	Unripened cheese	80 mg/kg	38, XS221, XS273, XS275	2021
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	3000 mg/kg		2007
02.1.2	Vegetable oils and fats	5000 mg/kg	102, XS19, XS33, XS210	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	5000 mg/kg	102, XS19, XS211	2021
02.2.2	Fat spreads, dairy fat spreads and blended spreads	10000 mg/kg	360 & 364	2016
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	5000 mg/kg	102	2007
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	3000 mg/kg	102	2007
03.0	Edible ices, including sherbet and sorbet	1000 mg/kg		2005
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	1000 mg/kg	154	2007
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	3000 mg/kg		2007
04.1.2.11	Fruit fillings for pastries	3000 mg/kg		2007
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	3000 mg/kg		2007
05.1.2	Cocoa mixes (syrups)	500 mg/kg		2007
05.1.3	Cocoa-based spreads, including fillings	1000 mg/kg	XS86	2016

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
05.1.4	Cocoa and chocolate products	5000 mg/kg	101	2016
05.1.5	Imitation chocolate, chocolate substitute products	5000 mg/kg		2007
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	1000 mg/kg	XS309R	2017
05.3	Chewing gum	5000 mg/kg		2007
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	3000 mg/kg		2007
06.4.2	Dried pastas and noodles and like products	5000 mg/kg		2008
06.4.3	Pre-cooked pastas and noodles and like products	5000 mg/kg	153	2007
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	3000 mg/kg		2005
06.6	Batters (e.g. for breading or batters for fish or poultry)	5000 mg/kg	2	2007
07.1.1	Breads and rolls	3000 mg/kg		2008
07.1.2	Crackers, excluding sweet crackers	5000 mg/kg	11	2008
07.1.3	Other ordinary bakery products (e.g. bagels, pita, English muffins)	3000 mg/kg	11	2008
07.1.4	Bread-type products, including bread stuffing and bread crumbs	3000 mg/kg	11	2008
07.1.5	Steamed breads and buns	3000 mg/kg	11	2008
07.1.6	Mixes for bread and ordinary bakery wares	3000 mg/kg	11	2008
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	3000 mg/kg		2008
08.2	Processed meat, poultry, and game products in whole pieces or cuts	5000 mg/kg	XS96 & XS97	2014
08.3	Processed comminuted meat, poultry, and game products	5000 mg/kg	XS88, XS89 & XS98	2014
08.4	Edible casings (e.g. sausage casings)	1500 mg/kg		2007
10.4	Egg-based desserts (e.g. custard)	3000 mg/kg		2007
12.1.1	Salt	10 mg/kg		2006
12.2.1	Herbs and spices	2000 mg/kg	XS326, XS327, XS328	2021
12.2.2	Seasonings and condiments	5000 mg/kg		2007
12.5	Soups and broths	1000 mg/kg		2005
12.6.1	Emulsified sauces and dips (e.g. mayonnaise, salad dressing, onion dip)	3000 mg/kg		2007
12.6.2	Non-emulsified sauces (e.g. ketchup, cheese sauce, cream sauce, brown gravy)	5000 mg/kg		2007
12.6.3	Mixes for sauces and gravies	5000 mg/kg	127	2007
12.6.4	Clear sauces (e.g. fish sauce)	5000 mg/kg	XS302	2018
12.7	Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	2000 mg/kg		2007
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	1000 mg/kg		2005

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
13.4	Dietetic formulae for slimming purposes and weight reduction	1000 mg/kg		2005
13.6	Food supplements	25000 mg/kg		2007
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	500 mg/kg	127	2007
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	120 mg/kg		2007
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	120 mg/kg		2007

POLYVINYL ALCOHOL

INS 1203 Polyvinyl alcohol Functional Class: Glazing agent, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
13.6	Food supplements	45000 mg/kg		2007

POLYVINYL ALCOHOL (PVA) – POLYETHYLENE GLYCOL (PEG) GRAFT COPOLYMER

INS 1209 Polyvinyl alcohol (PVA) – Polyethylene glycol (PEG) graft copolymer Functional Class: Glazing agent, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
13.6	Food supplements	100000 mg/kg	417	2018

POLYVINYLPIRROLIDONE

INS 1201 Polyvinylpyrrolidone Functional Class: Emulsifier, Glazing agent, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.1.2	Surface-treated fresh fruit	GMP		1999
05.3	Chewing gum	10000 mg/kg		1999
11.6	Table-top sweeteners, including those containing high-intensity sweeteners	3000 mg/kg		1999
12.3	Vinegars	40 mg/kg		1999
13.6	Food supplements	GMP		1999
14.1.4.3	Concentrates (liquid or solid) for water-based flavoured drinks	500 mg/kg		1999
14.2.1	Beer and malt beverages	10 mg/kg	36	1999
14.2.2	Cider and perry	2 mg/kg	36	1999

Table One

PONCEAU 4R (COCHINEAL RED A)

INS 124 Ponceau 4R (Cochineal red A) Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	150 mg/kg	52 & 161	2008
01.6.1	Unripened cheese	100 mg/kg	3, 161, XS221, XS273, XS275	2021
01.6.2.2	Rind of ripened cheese	100 mg/kg		2008
01.6.4.2	Flavoured processed cheese, including containing fruit, vegetables, meat, etc.	100 mg/kg		2008
01.6.5	Cheese analogues	100 mg/kg	3	2008
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	150 mg/kg	161	2008
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	50 mg/kg		2008
03.0	Edible ices, including sherbet and sorbet	50 mg/kg		2008
04.1.2.4	Canned or bottled (pasteurized) fruit	300 mg/kg	161 & 267	2018
04.1.2.5	Jams, jellies, marmelades	100 mg/kg	161	2008
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	500 mg/kg	161	2008
04.1.2.7	Candied fruit	200 mg/kg	161	2008
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	50 mg/kg	161 & 182	2008
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	50 mg/kg	161	2008
04.1.2.11	Fruit fillings for pastries	50 mg/kg	161	2008
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	500 mg/kg	161	2008
05.1.4	Cocoa and chocolate products	300 mg/kg	183	2016
05.1.5	Imitation chocolate, chocolate substitute products	50 mg/kg		2008
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	100 mg/kg	XS309R	2021
05.3	Chewing gum	300 mg/kg		2008
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	50 mg/kg		2008
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	50 mg/kg		2008
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	50 mg/kg		2008
08.4	Edible casings (e.g. sausage casings)	500 mg/kg	16	2008
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	30 mg/kg	395, XS36, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	500 mg/kg	16, 95 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	500 mg/kg	16 & 95	2008
09.2.4.1	Cooked fish and fish products	500 mg/kg	95	2008
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	250 mg/kg		2008
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	100 mg/kg	22, XS167, XS189, XS222, XS236, XS244 & XS311	2018
09.3.3	Salmon substitutes, caviar, and other fish roe products	500 mg/kg	XS291	2018
09.3.4	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g. fish paste), excluding products of food categories 09.3.1 - 09.3.3	100 mg/kg		2008
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	500 mg/kg	435, XS3, XS70, XS90, XS94 & XS119	2018
10.1	Fresh eggs	500 mg/kg	4	2008
10.4	Egg-based desserts (e.g. custard)	50 mg/kg		2008
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	300 mg/kg	159	2008
12.2.2	Seasonings and condiments	500 mg/kg		2008
12.4	Mustards	300 mg/kg		2008
12.5	Soups and broths	50 mg/kg		2008
12.6	Sauces and like products	50 mg/kg	XS302	2018
12.7	Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	200 mg/kg		2008
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	50 mg/kg		2008
13.4	Dietetic formulae for slimming purposes and weight reduction	50 mg/kg		2008
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	300 mg/kg		2008
13.6	Food supplements	300 mg/kg		2008
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	50 mg/kg		2008
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	200 mg/kg		2008
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	200 mg/kg		2008
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	200 mg/kg		2008
15.2	Processed nuts, including coated nuts and nut mixtures (with e.g. dried fruit)	100 mg/kg		2008

Table One

POTASSIUM 5'-INOSINATE

INS 632 Potassium 5'-inosinate Functional Class: Flavour enhancer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
12.1.2	Salt Substitutes	GMP		2015

POTASSIUM ACETATE

INS 261(i) Potassium acetate Functional Class: Acidity regulator, Preservative

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
13.2	Complementary foods for infants and young children	GMP	239	2013

POTASSIUM ALGINATE

INS 402 Potassium alginate Functional Class: Bulking agent, Carrier, Emulsifier, Foaming agent, Gelling agent, Glazing agent, Humectant, Sequestrant, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	63	2017
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014

POTASSIUM CARBONATE

INS 501(i) Potassium carbonate Functional Class: Acidity regulator, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	407	2019
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
01.8.2	Dried whey and whey products, excluding whey cheeses	GMP		2006

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
06.4.1	Fresh pastas and noodles and like products	11000 mg/kg		2013
06.4.2	Dried pastas and noodles and like products	GMP	256	2013
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2013
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP		2015
09.2.4	Cooked and/or fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP		2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	230, XS167, XS189, XS222, XS236, XS244 & XS311	2018
13.1.1	Infant formulae	2000 mg/kg	55 & 72	2013
13.1.2	Follow-up formulae	GMP	72	2013
13.1.3	Formulae for special medical purposes for infants	2000 mg/kg	55 & 72	2013
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2013

POTASSIUM CHLORIDE

INS 508 Potassium chloride Functional Class: Firming agent, Flavour enhancer, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
01.8.2	Dried whey and whey products, excluding whey cheeses	GMP		2006
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP		2015

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, XS167, XS189, XS222, XS236, XS244 & XS311	2018
12.1.2	Salt Substitutes	GMP		2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

POTASSIUM DIHYDROGEN CITRATE

INS 332(i) Potassium dihydrogen citrate Functional Class: Acidity regulator, Emulsifying salt, Sequestrant, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.3	Fluid buttermilk (plain)	GMP	261	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP		2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
01.8.2	Dried whey and whey products, excluding whey cheeses	GMP		2006
04.2.2.1	Frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	GMP	29	2015
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2	Processed fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	253, 391, XS36, XS92, XS95, XS167, XS189, XS190, XS191, XS222, XS236, XS244, XS292, XS311, XS312 & XS315	2018
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2013
12.1.2	Salt Substitutes	GMP		2013
13.1.1	Infant formulae	GMP	55 & 72	2014
13.1.2	Follow-up formulae	GMP	72	2013
13.1.3	Formulae for special medical purposes for infants	GMP	55 & 72	2014
13.2	Complementary foods for infants and young children	GMP	239	2013
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2013

POTASSIUM HYDROGEN CARBONATE

INS 501(ii) Potassium hydrogen carbonate Functional Class: Acidity regulator, Raising agent, Stabilizer

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
01.8.2	Dried whey and whey products, excluding whey cheeses	GMP		2006
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2013
13.1.1	Infant formulae	2000 mg/kg	55 & 72	2013
13.1.2	Follow-up formulae	GMP	72	2013
13.1.3	Formulae for special medical purposes for infants	2000 mg/kg	55 & 72	2013
13.2	Complementary foods for infants and young children	GMP		2013

POTASSIUM HYDROXIDE

INS 525 Potassium hydroxide Functional Class: Acidity regulator

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	410	2018
01.8.2	Dried whey and whey products, excluding whey cheeses	GMP		2006
13.1.1	Infant formulae	2000 mg/kg	55 & 72	2013
13.1.2	Follow-up formulae	GMP	72	2013
13.1.3	Formulae for special medical purposes for infants	2000 mg/kg	55 & 72	2013
13.2	Complementary foods for infants and young children	GMP	239	2013

POTASSIUM LACTATE

INS 326 Potassium lactate Functional Class: Acidity regulator, Antioxidant, Emulsifier, Humectant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.3	Fluid buttermilk (plain)	GMP	261	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP		2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	382, XS167, XS189, XS222, XS236 & XS244	2018
13.2	Complementary foods for infants and young children	GMP	83 & 239	2013

POWDERED CELLULOSE

INS 460(ii) Powdered cellulose Functional Class: Anticaking agent, Bulking agent, Emulsifier, Glazing agent, Humectant, Stabilizer, Thickener

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
01.8.2	Dried whey and whey products, excluding whey cheeses	10000 mg/kg		2006
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	16, XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	16 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2014
09.2.4.1	Cooked fish and fish products	GMP	16 & 325	2015
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	GMP	16	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41, 325 & 332	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, 332, XS167, XS189, XS222, XS236, XS244 & XS311	2018
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
12.2.1	Herbs and spices	GMP	534	2021
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

PROCESSED EUCHEUMA SEAWEED (PES)

INS 407a Processed eucheuma seaweed Functional Class: Bulking agent, Carrier, Emulsifier, Gelling agent, Glazing agent, Humectant, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2015
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2015
01.2.2	Renneted milk (plain)	GMP		2015
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
06.4.1	Fresh pastas and noodles and like products	GMP	211	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2015
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	332, 391, XS36, XS92, XS95, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	177 & 332	2015
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP		2014
09.2.4.1	Cooked fish and fish products	GMP	16 & 325	2015
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	GMP	16	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41, 325 & 332	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, 332, XS167, XS189, XS222, XS236, XS244 & XS311	2018
10.2.1	Liquid egg products	GMP		2014
10.2.2	Frozen egg products	GMP		2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

PROPIONIC ACID

INS 280 Propionic acid Functional Class: Preservative

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.6.2.1	Ripened cheese, includes rind	GMP	3, 460, 503, XS208, XS269, XS274, XS276, XS277, XS278	2021
01.6.6	Whey protein cheese	3000 mg/kg	70	2006

PROPYL GALLATE

INS 310 Propyl gallate Functional Class: Antioxidant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
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Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.5.1	Milk powder and cream powder (plain)	200 mg/kg	15, 75 & 196	2001
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	90 mg/kg	2 & 15	2001
02.1.1	Butter oil, anhydrous milkfat, ghee	100 mg/kg	15, 133, 171, 514	2021
02.1.2	Vegetable oils and fats	200 mg/kg	15, 130, 511, 515, XS33	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	200 mg/kg	15, 130, 516	2021
02.2.2	Fat spreads, dairy fat spreads and blended spreads	200 mg/kg	15 & 130	2004
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	200 mg/kg	15 & 130	2004
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	200 mg/kg	15 & 130	2004
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	90 mg/kg	2 & 15	2001
04.2.2.2	Dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	50 mg/kg	15, 76 & 196	2001
05.1	Cocoa products and chocolate products including imitations and chocolate substitutes	200 mg/kg	15, 130, 303, XS86, XS105 & XS141	2016
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	200 mg/kg	15, 130 & XS309R	2017
05.3	Chewing gum	1000 mg/kg	130	2001
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	200 mg/kg	15 & 130	2001
06.1	Whole, broken, or flaked grain, including rice	100 mg/kg	15 & XS202	2019
06.3	Breakfast cereals, including rolled oats	200 mg/kg	15 & 196	2001
06.4.3	Pre-cooked pastas and noodles and like products	200 mg/kg	15, 130 & 211	2012
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	90 mg/kg	2 & 15	2001
07.1.3	Other ordinary bakery products (e.g. bagels, pita, English muffins)	100 mg/kg	15 & 130	2001
07.2.3	Mixes for fine bakery wares (e.g. cakes, pancakes)	200 mg/kg	15 & 196	2001
08.2	Processed meat, poultry, and game products in whole pieces or cuts	200 mg/kg	15, 130, XS96 & XS97	2014
08.3	Processed comminuted meat, poultry, and game products	200 mg/kg	15, 130, XS88, XS89 & XS98	2014
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	100 mg/kg	15, 196, XS167, XS189, XS222, XS236, XS244 & XS311	2018
10.4	Egg-based desserts (e.g. custard)	90 mg/kg	2 & 15	2001
12.2	Herbs, spices, seasonings and condiments (e.g. seasoning for instant noodles)	200 mg/kg	15, 130, XS326, XS327, XS328	2021
12.5	Soups and broths	200 mg/kg	15, 127 & 130	2012
12.6	Sauces and like products	200 mg/kg	15, 130 & XS302	2018
13.6	Food supplements	400 mg/kg	15 & 196	2001

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	1000 mg/kg	15	2001
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	200 mg/kg	15 & 130	2005
15.2	Processed nuts, including coated nuts and nut mixtures (with e.g. dried fruit)	200 mg/kg	15 & 130	2005

PROPYLENE GLYCOL

INS 1520

Propylene glycol

Functional Class: Carrier, Emulsifier, Glazing agent, Humectant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	2000 mg/kg	XS240 & XS314R	2016
05.1.3	Cocoa-based spreads, including fillings	1000 mg/kg	XS86	2017
05.2.1	Hard candy	5300 mg/kg		2017
05.2.2	Soft candy	4500 mg/kg	XS309R	2017
05.2.3	Nougats and marzipans	1000 mg/kg		2017
05.3	Chewing gum	20000 mg/kg		2017
06.4.1	Fresh pastas and noodles and like products	20000 mg/kg	370	2016
06.4.3	Pre-cooked pastas and noodles and like products	10000 mg/kg	194	2016
07.1	Bread and ordinary bakery wares	1500 mg/kg		2016
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	1500 mg/kg		2016
12.6.1	Emulsified sauces and dips (e.g. mayonnaise, salad dressing, onion dip)	1000 mg/kg	426	2018
13.6	Food supplements	2000 mg/kg	417	2018
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	300 mg/kg		2018

PROPYLENE GLYCOL ALGINATE

INS 405

Propylene glycol alginate

Functional Class: Bulking agent, Carrier, Emulsifier, Foaming agent, Gelling agent, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	1300 mg/kg	XS243	2017
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	5000 mg/kg	234 & 235	2017
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	5000 mg/kg	234	2017
01.3.2	Beverage whiteners	5000 mg/kg	XS250 & XS252	2016
01.4.3	Clotted cream (plain)	5000 mg/kg		2016
01.4.4	Cream analogues	2500 mg/kg		2016
01.6.1	Unripened cheese	5000 mg/kg	XS262	2016

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.6.2.3	Cheese powder (for reconstitution; e.g. for cheese sauces)	16000 mg/kg	353	2016
01.6.4	Processed cheese	9000 mg/kg		2018
01.6.5	Cheese analogues	9000 mg/kg		2016
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	6000 mg/kg		2016
02.2.2	Fat spreads, dairy fat spreads and blended spreads	3000 mg/kg	359	2016
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	3000 mg/kg		2016
03.0	Edible ices, including sherbet and sorbet	10000 mg/kg		2016
04.1.2.5	Jams, jellies, marmelades	5000 mg/kg	409, XS296	2018
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	5000 mg/kg	XS240 & XS314R	2016
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	6000 mg/kg		2016
04.1.2.11	Fruit fillings for pastries	5000 mg/kg		2016
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	6000 mg/kg	386, XS38 & XS260	2017
05.1.2	Cocoa mixes (syrups)	10000 mg/kg		2017
05.1.3	Cocoa-based spreads, including fillings	10000 mg/kg	XS86	2017
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	5000 mg/kg	XS309R	2017
05.3	Chewing gum	5000 mg/kg		2016
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	5000 mg/kg		2016
06.4.1	Fresh pastas and noodles and like products	10000 mg/kg	370	2016
06.4.2	Dried pastas and noodles and like products	5000 mg/kg	211	2016
06.4.3	Pre-cooked pastas and noodles and like products	5000 mg/kg	194 & 371	2016
07.1.1.1	Yeast-leavened breads and specialty breads	4000 mg/kg		2017
07.1.2	Crackers, excluding sweet crackers	2000 mg/kg		2017
07.1.5	Steamed breads and buns	500 mg/kg		2017
07.1.6	Mixes for bread and ordinary bakery wares	20000 mg/kg	11	2017
07.2.1	Cakes, cookies and pies (e.g. fruit-filled or custard types)	3000 mg/kg		2017
07.2.2	Other fine bakery products (e.g. doughnuts, sweet rolls, scones, and muffins)	2000 mg/kg		2017
07.2.3	Mixes for fine bakery wares (e.g. cakes, pancakes)	10000 mg/kg	11	2017
08.3	Processed comminuted meat, poultry, and game products	3000 mg/kg	XS88, XS89 & XS98	2016
10.2.1	Liquid egg products	10000 mg/kg		2018
10.2.2	Frozen egg products	10000 mg/kg		2018
10.4	Egg-based desserts (e.g. custard)	3000 mg/kg		2018

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	10000 mg/kg	258	2018
12.5.1	Ready-to-eat soups and broths, including canned, bottled, and frozen	10000 mg/kg	XS117	2018
12.6.1	Emulsified sauces and dips (e.g. mayonnaise, salad dressing, onion dip)	8000 mg/kg		2018
12.6.3	Mixes for sauces and gravies	8000 mg/kg	127	2018
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	1200 mg/kg		2018
13.4	Dietetic formulae for slimming purposes and weight reduction	1200 mg/kg		2018
13.6	Food supplements	1000 mg/kg		2018
14.1.4.1	Carbonated water-based flavoured drinks	500 mg/kg		2018
14.1.4.2	Non-carbonated water-based flavoured drinks, including punches and ades	500 mg/kg		2018
14.1.4.3	Concentrates (liquid or solid) for water-based flavoured drinks	500 mg/kg	127	2018
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	500 mg/kg	160	2018
14.2.1	Beer and malt beverages	500 mg/kg		2018
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	3000 mg/kg		2018

PROPYLENE GLYCOL ESTERS OF FATTY ACIDS

INS 477 Propylene glycol esters of fatty acids Functional Class: Emulsifier acids

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	5000 mg/kg		2001
01.3.2	Beverage whiteners	1000 mg/kg	XS250 & XS252	2021
01.4.4	Cream analogues	5000 mg/kg	86	2001
01.5.2	Milk and cream powder analogues	100000 mg/kg	XS251	2021
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	5000 mg/kg		2001
02.1.2	Vegetable oils and fats	10000 mg/kg	XS19, XS33, XS210	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	10000 mg/kg	XS19, XS211	2021
02.2.2	Fat spreads, dairy fat spreads and blended spreads	20000 mg/kg		2001
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	30000 mg/kg		2001
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	40000 mg/kg		2006
03.0	Edible ices, including sherbet and sorbet	5000 mg/kg		2001
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	40000 mg/kg		2001

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	40000 mg/kg		2001
04.1.2.11	Fruit fillings for pastries	40000 mg/kg		2001
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	5000 mg/kg		2001
05.1.1	Cocoa mixes (powders) and cocoa mass/cake	5000 mg/kg	97 & XS141	2016
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	5000 mg/kg	XS309R	2017
05.3	Chewing gum	20000 mg/kg		2001
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	40000 mg/kg		2001
06.4.3	Pre-cooked pastas and noodles and like products	5000 mg/kg	2 & 153	2007
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	40000 mg/kg		2001
07.0	Bakery wares	15000 mg/kg	11 & 72	2001
10.4	Egg-based desserts (e.g. custard)	40000 mg/kg		2001
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	5000 mg/kg		2001
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	5000 mg/kg		2001
13.4	Dietetic formulae for slimming purposes and weight reduction	5000 mg/kg		2001
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	500 mg/kg		2001

PROTEASE FROM ASPERGILLUS ORYZAE VAR.

INS 1101(i) Protease from *Aspergillus oryzae* Functional Class: Flavour enhancer, Flour treatment agent, Stabilizer var.

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
06.2.1	Flours	GMP		1999
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2018

PULLULAN

INS 1204 Pullulan Functional Class: Glazing agent, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2014
06.2.1	Flours	GMP	25 & XS152	2014

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
06.4.1	Fresh pastas and noodles and like products	GMP	211	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP		2015
09.2.4.1	Cooked fish and fish products	GMP	241	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, XS167, XS189, XS222, XS236, XS244 & XS311	2018
10.2.2	Frozen egg products	GMP		2015
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2015
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2015

QUILLAIA EXTRACTS

INS 999(i) Quillaia extract type 1 Functional Class: Emulsifier, Foaming agent

INS 999(ii) Quillaia extract type 2 Functional Class: Emulsifier, Foaming agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	50 mg/kg	132 & 293	2016

QUINOLINE YELLOW

INS 104 Quinoline yellow Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	10 mg/kg	52	2017
05.2.1	Hard candy	100 mg/kg	442	2019
05.2.2	Soft candy	100 mg/kg		2019
05.2.3	Nougats and marzipans	100 mg/kg		2019
05.3	Chewing gum	30 mg/kg	445	2019
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	50 mg/kg	445	2019
12.5	Soups and broths	50 mg/kg	99	2015
13.6	Food supplements	300 mg/kg	539 & 535	2021
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	70 mg/kg	127	2021

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	70 mg/kg		2021

RIBOFLAVINS

INS 101(i) Riboflavin, synthetic Functional Class: Colour

INS 101(ii) Riboflavin 5'-phosphate sodium Functional Class: Colour

INS 101(iii) Riboflavin from *Bacillus subtilis* Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	300 mg/kg	52	2008
01.3.2	Beverage whiteners	300 mg/kg	XS250 & XS252	2021
01.5.2	Milk and cream powder analogues	300 mg/kg	XS251	2021
01.6.1	Unripened cheese	300 mg/kg	491, XS273, XS275	2021
01.6.2.1	Ripened cheese, includes rind	300 mg/kg	462,504, XS208, XS265, XS266, XS267, XS268, XS269, XS270, XS271, XS272, XS274, XS276, XS277, XS278	2021
01.6.2.2	Rind of ripened cheese	300 mg/kg		2005
01.6.4	Processed cheese	300 mg/kg		2005
01.6.5	Cheese analogues	300 mg/kg		2005
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	300 mg/kg		2005
02.2.2	Fat spreads, dairy fat spreads and blended spreads	300 mg/kg		2005
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	300 mg/kg		2008
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	300 mg/kg		2005
03.0	Edible ices, including sherbet and sorbet	500 mg/kg		2005
04.1.1.2	Surface-treated fresh fruit	300 mg/kg	4 & 16	2008
04.1.2.4	Canned or bottled (pasteurized) fruit	300 mg/kg	267	2018
04.1.2.5	Jams, jellies, marmelades	200 mg/kg		2005
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	500 mg/kg		2005
04.1.2.7	Candied fruit	300 mg/kg		2005
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	300 mg/kg	182	2008
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	300 mg/kg		2005
04.1.2.10	Fermented fruit products	500 mg/kg		2008

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.2.11	Fruit fillings for pastries	300 mg/kg		2005
04.2.1.2	Surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	300 mg/kg	4 & 16	2008
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	500 mg/kg		2005
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	300 mg/kg	92	2008
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	500 mg/kg		2008
05.1.5	Imitation chocolate, chocolate substitute products	1000 mg/kg		2005
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	1000 mg/kg	XS309R	2017
05.3	Chewing gum	1000 mg/kg		2005
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	1000 mg/kg		2005
06.3	Breakfast cereals, including rolled oats	300 mg/kg		2005
06.4.3	Pre-cooked pastas and noodles and like products	300 mg/kg	153, 473	2019
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	300 mg/kg		2005
06.6	Batters (e.g. for breading or batters for fish or poultry)	300 mg/kg		2005
06.8.1	Soybean-based beverages	50 mg/kg		2010
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	300 mg/kg		2005
08.2	Processed meat, poultry, and game products in whole pieces or cuts	1000 mg/kg	16, XS96 & XS97	2014
08.3	Processed comminuted meat, poultry, and game products	1000 mg/kg	16, XS88, XS89 & XS98	2014
08.4	Edible casings (e.g. sausage casings)	1000 mg/kg	16	2008
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	1000 mg/kg	95, XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	300 mg/kg	16 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	300 mg/kg	16	2005
09.2.4.1	Cooked fish and fish products	300 mg/kg	95	2008
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	300 mg/kg		2008
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	300 mg/kg	16	2005

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	300 mg/kg	22, XS167, XS189, XS222, XS236, XS244 & XS311	2018
09.3.1	Fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly	300 mg/kg	16	2005
09.3.2	Fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine	300 mg/kg	16	2005
09.3.3	Salmon substitutes, caviar, and other fish roe products	300 mg/kg	XS291	2018
09.3.4	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g. fish paste), excluding products of food categories 09.3.1 - 09.3.3	300 mg/kg		2005
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	500 mg/kg	95, XS3, XS37, XS70, XS90, XS94 & XS119	2018
10.1	Fresh eggs	300 mg/kg	4	2005
10.4	Egg-based desserts (e.g. custard)	300 mg/kg		2005
11.3	Sugar solutions and syrups, also (partially) inverted, including treacle and molasses, excluding products of food category 11.1.3	300 mg/kg		2005
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	300 mg/kg		2005
12.2.2	Seasonings and condiments	350 mg/kg		2005
12.4	Mustards	300 mg/kg		2005
12.5	Soups and broths	200 mg/kg	344	2015
12.6	Sauces and like products	350 mg/kg	XS302	2018
12.7	Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	300 mg/kg		2005
12.9.1	Fermented soybean paste (e.g., miso)	30 mg/kg		2010
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	300 mg/kg		2005
13.4	Dietetic formulae for slimming purposes and weight reduction	300 mg/kg		2005
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	300 mg/kg		2005
13.6	Food supplements	300 mg/kg		2005
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	50 mg/kg		2005
14.2.2	Cider and perry	300 mg/kg		2005
14.2.4	Wines (other than grape)	300 mg/kg		2005
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	100 mg/kg		2005
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	1000 mg/kg		2005
15.2	Processed nuts, including coated nuts and nut mixtures (with e.g. dried fruit)	1000 mg/kg		2005

Table One

SACCHARINS

INS 954(i)	Saccharin	Functional Class: Sweetener
INS 954(ii)	Calcium saccharin	Functional Class: Sweetener
INS 954(iii)	Potassium saccharin	Functional Class: Sweetener
INS 954(iv)	Sodium saccharin	Functional Class: Sweetener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	80 mg/kg	477 & 406	2019
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	100 mg/kg	477	2019
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	100 mg/kg	477	2021
03.0	Edible ices, including sherbet and sorbet	100 mg/kg	477	2019
04.1.2.3	Fruit in vinegar, oil, or brine	160 mg/kg	144	2007
04.1.2.4	Canned or bottled (pasteurized) fruit	200 mg/kg	477 & XS319	2021
04.1.2.5	Jams, jellies, marmelades	200 mg/kg	477	2019
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	200 mg/kg	477	2019
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	200 mg/kg	477	2019
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	100 mg/kg	477	2019
04.1.2.10	Fermented fruit products	160 mg/kg	477	2019
04.2.2.2	Dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	500 mg/kg	144 & 348	2021
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	160 mg/kg	144	2007
04.2.2.4	Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	160 mg/kg	144 & 477	2021
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	160 mg/kg	477	2021
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	200 mg/kg	477	2021
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	200 mg/kg	144	2021
04.2.2.8	Cooked or fried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	160 mg/kg	144, 477 & 345	2021
05.1.1	Cocoa mixes (powders) and cocoa mass/cake	100 mg/kg	97, 161 & XS141	2016
05.1.2	Cocoa mixes (syrups)	80 mg/kg	477	2021

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
05.1.3	Cocoa-based spreads, including fillings	200 mg/kg	477 & XS86	2019
05.1.4	Cocoa and chocolate products	500 mg/kg	477	2019
05.1.5	Imitation chocolate, chocolate substitute products	500 mg/kg	477	2021
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	500 mg/kg	477, 163 & XS309R	2019
05.3	Chewing gum	2500 mg/kg	477	2019
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	500 mg/kg	477	2019
06.3	Breakfast cereals, including rolled oats	100 mg/kg	477	2019
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	100 mg/kg	477	2021
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	170 mg/kg	165	2007
09.2.4.1	Cooked fish and fish products	500 mg/kg	477 & 322	2021
09.3.1	Fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly	160 mg/kg	144	2007
09.3.2	Fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine	160 mg/kg	144	2007
09.3.4	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g. fish paste), excluding products of food categories 09.3.1 - 09.3.3	160 mg/kg	144	2007
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	200 mg/kg	144, XS3, XS37, XS70, XS90, XS94 & XS119	2018
10.4	Egg-based desserts (e.g. custard)	100 mg/kg	144	2007
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	300 mg/kg	159	2008
11.6	Table-top sweeteners, including those containing high-intensity sweeteners	GMP		2007
12.2.2	Seasonings and condiments	1500 mg/kg	161	2008
12.3	Vinegars	300 mg/kg		2008
12.4	Mustards	320 mg/kg		2007
12.5	Soups and broths	110 mg/kg	477 & XS117	2019
12.6	Sauces and like products	160 mg/kg	XS302	2018
12.7	Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	200 mg/kg	166 & 477	2021
12.9.1	Fermented soybean paste (e.g., miso)	200 mg/kg		2012
12.9.2.1	Fermented soybean sauce	500 mg/kg		2012
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	200 mg/kg		2007
13.4	Dietetic formulae for slimming purposes and weight reduction	300 mg/kg		2007
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	200 mg/kg		2007
13.6	Food supplements	1200 mg/kg		2007

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.1.3.1	Fruit nectar	80 mg/kg		2005
14.1.3.2	Vegetable nectar	80 mg/kg	477	2021
14.1.3.3	Concentrates for fruit nectar	80 mg/kg	127	2005
14.1.4.1	Carbonated water-based flavoured drinks	300 mg/kg	161	2008
14.1.4.2	Non-carbonated water-based flavoured drinks, including punches and ades	300 mg/kg	161	2008
14.1.4.3	Concentrates (liquid or solid) for water-based flavoured drinks	300 mg/kg	127 & 161	2008
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	200 mg/kg	160	2007
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	80 mg/kg		2007
15.0	Ready-to-eat savouries	100 mg/kg		2007

SALTS OF MYRISTIC, PALMITIC AND STEARIC ACIDS WITH AMMONIA, CALCIUM, POTASSIUM AND SODIUM

INS 470(i) Salts of myristic, palmitic and stearic acids with ammonia, calcium, potassium and sodium Functional Class: Anticaking agent, Emulsifier, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
04.1.1.2	Surface-treated fresh fruit	GMP	71 & 454	2019
04.2.1.2	Surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	GMP	71 & 456	2019
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16, 71 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	71 & 281	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	71, XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	16, 71 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2014
09.2.4.1	Cooked fish and fish products	GMP	241	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, XS167, XS189, XS222, XS236, XS244 & XS311	2018

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
10.2.1	Liquid egg products	GMP		2014
10.2.2	Frozen egg products	GMP		2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	71 & 258	2014
12.1.1	Salt	GMP	71	2006
12.1.2	Salt Substitutes	GMP		2014
12.2.1	Herbs and spices	GMP	534	2021
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

SALTS OF OLEIC ACID WITH CALCIUM, POTASSIUM AND SODIUM

INS 470(ii) Salts of oleic acid with calcium, potassium and sodium Functional Class: Anticaking agent, Emulsifier, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
04.1.1.2	Surface-treated fresh fruit	GMP	454	2021
04.2.1.2	Surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	GMP	456	2021
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	16 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2014
09.2.4.1	Cooked fish and fish products	GMP	241	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, XS167, XS189, XS222, XS236, XS244 & XS311	2018
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
12.2.1	Herbs and spices	GMP	534	2021
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

Table One

SHELLAC, BLEACHED

INS 904 Shellac, bleached Functional Class: Glazing agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.1.2	Surface-treated fresh fruit	GMP		2003
04.2.1.2	Surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	GMP	79	2003
05.1.4	Cocoa and chocolate products	GMP	3	2001
05.1.5	Imitation chocolate, chocolate substitute products	GMP	3	2001
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	GMP	3 & XS309R	2017
05.3	Chewing gum	GMP	3	2003
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	GMP		2003
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	GMP	3	2001
13.6	Food supplements	GMP	3	2001
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	108	2001
15.0	Ready-to-eat savouries	GMP	3	2001

SILICON DIOXIDE, AMORPHOUS

INS 551 Silicon dioxide, amorphous Functional Class: Anticaking agent, Antifoaming agent, Carrier

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.6.1	Unripened cheese	GMP	3, 488, XS273, XS275	2021
01.6.2.1	Ripened cheese, includes rind	GMP	459, 461, 502, XS208, XS274, XS276, XS277, XS278	2021
01.8.2	Dried whey and whey products, excluding whey cheeses	10000 mg/kg		2006
11.1.2	Powdered sugar, powdered dextrose	15000 mg/kg	56, 465	2019
12.1.1	Salt	GMP		2006
12.1.2	Salt Substitutes	GMP		2015
12.2.1	Herbs and spices	GMP	51 & 534	2021
13.2	Complementary foods for infants and young children	2000 mg/kg	65 & 318	2015
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	321	2015

SODIUM ACETATE

INS 262(i) Sodium acetate Functional Class: Acidity regulator, Preservative, Sequestrant

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
06.4.1	Fresh pastas and noodles and like products	6000 mg/kg		2013
06.4.2	Dried pastas and noodles and like products	GMP	256	2013
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2015
09.2.4	Cooked and/or fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP		2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS167, XS189, XS222, XS236, XS244 & XS311	2018
10.2.1	Liquid egg products	GMP		2013
10.2.2	Frozen egg products	GMP		2013
12.1.2	Salt Substitutes	GMP		2013
13.2	Complementary foods for infants and young children	GMP	239, 319 & 320	2015
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2013

SODIUM ALGINATE

INS 401

Sodium alginate

Functional Class: Bulking agent, Carrier, Emulsifier, Foaming agent, Gelling agent, Glazing agent, Humectant, Sequestrant, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2015
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2015
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
04.1.1.2	Surface-treated fresh fruit	GMP	453 & 454	2021
04.2.1.2	Surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	GMP	455 & 456	2021
06.4.1	Fresh pastas and noodles and like products	GMP	211	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS36, XS92, XS95, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	210 & 332	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP		2014
09.2.4.1	Cooked fish and fish products	GMP	16 & 325	2015
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	GMP	16 & 325	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41, 325 & 332	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, 332, XS167, XS189, XS222, XS236, XS244 & XS311	2018
10.2.1	Liquid egg products	GMP		2014
10.2.2	Frozen egg products	GMP		2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

SODIUM ALUMINIUM PHOSPHATES

INS 541(i)	Sodium aluminium phosphate, acidic	Functional Class: Acidity regulator, Emulsifier, Emulsifying salt, Raising agent, Stabilizer, Thickener
INS 541(ii)	Sodium aluminium phosphate, basic	Functional Class: Acidity regulator, Emulsifier, Emulsifying salt, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.6.4	Processed cheese	1600 mg/kg	6 & 251	2013
06.2.1	Flours	1600 mg/kg	6, 252, XS152	2019
06.6	Batters (e.g. for breading or batters for fish or poultry)	1000 mg/kg	6	2013
07.1.2	Crackers, excluding sweet crackers	100 mg/kg	6 & 246	2013
07.1.3	Other ordinary bakery products (e.g. bagels, pita, English muffins)	100 mg/kg	6, 244 & 246	2013
07.1.5	Steamed breads and buns	40 mg/kg	6, 246 & 248	2013
07.1.6	Mixes for bread and ordinary bakery wares	40 mg/kg	6, 246 & 249	2013

SODIUM ALUMINIUM SILICATE

INS 554	Sodium aluminium silicate	Functional Class: Anticaking agent
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FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.3.2	Beverage whiteners	570 mg/kg	6, 260, XS250 & XS252	2021

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.5.1	Milk powder and cream powder (plain)	265 mg/kg	6 & 259	2013
01.5.2	Milk and cream powder analogues	570 mg/kg	6	2021
01.8.2	Dried whey and whey products, excluding whey cheeses	1140 mg/kg	6	2013
05.3	Chewing gum	100 mg/kg	6 & 174	2013
12.1.1	Salt	1000 mg/kg	6 & 254	2013
12.2.2	Seasonings and condiments	1000 mg/kg	6 & 255	2013
12.5.2	Mixes for soups and broths	570 mg/kg	6 & XS117	2015
12.6.3	Mixes for sauces and gravies	570 mg/kg	6	2013

SODIUM ASCORBATE

INS 301

Sodium ascorbate

Functional Class: Antioxidant, Flour treatment agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	410	2018
04.1.1.3	Peeled or cut fresh fruit	GMP		2014
04.2.1.3	Peeled, cut or shredded fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	GMP		2014
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2014
06.2.1	Flours	300 mg/kg		2014
06.4.1	Fresh pastas and noodles and like products	GMP		2014
06.4.2	Dried pastas and noodles and like products	200 mg/kg	256	2014
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.1.2	Fresh mollusks, crustaceans, and echinoderms	GMP	390, XS312 & XS315	2017
09.2	Processed fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	437, 307, 392, XS92, XS167, XS189, XS191, XS222, XS236, XS244, XS312 & XS315	2018
12.1.2	Salt Substitutes	GMP	314	2015
13.1.2	Follow-up formulae	50 mg/kg	70, 72, 315 & 316	2015
13.2	Complementary foods for infants and young children	500 mg/kg	317, 319 & 320	2015
14.1.2.1	Fruit juice	GMP		2005
14.1.2.3	Concentrates for fruit juice	GMP	127	2005
14.1.3.1	Fruit nectar	GMP		2005
14.1.3.3	Concentrates for fruit nectar	GMP	127	2005

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2015

SODIUM CARBONATE

INS 500(i) Sodium carbonate Functional Class: Acidity regulator, Anticaking agent, Emulsifying salt, Raising agent, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP		2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
01.8.2	Dried whey and whey products, excluding whey cheeses	GMP		2006
02.2.1	Butter	GMP		2008
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
06.2.2	Starches	GMP		2014
06.4.1	Fresh pastas and noodles and like products	10000 mg/kg		2013
06.4.2	Dried pastas and noodles and like products	GMP	256	2013
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2013
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2015
09.2.4	Cooked and/or fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP		2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS167, XS189, XS222, XS236, XS244 & XS311	2018
12.1.2	Salt Substitutes	GMP		2013
12.2.1	Herbs and spices	GMP	534	2021
13.1.1	Infant formulae	2000 mg/kg	55 & 72	2013
13.1.2	Follow-up formulae	GMP	72 & 316	2015
13.1.3	Formulae for special medical purposes for infants	2000 mg/kg	55 & 72	2013
13.2	Complementary foods for infants and young children	GMP	240, 243, 295, 319 & 320	2015
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2013

SODIUM CARBOXYMETHYL CELLULOSE (CELLULOSE GUM)

INS 466 Sodium carboxymethyl cellulose Functional Class: Bulking agent, Emulsifier, Firming agent, Gelling agent, Glazing agent, Humectant, Stabilizer, Thickener

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	407 & 438	2019
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2015
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
06.4.1	Fresh pastas and noodles and like products	GMP	211	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	332, 391, XS36, XS92, XS95, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	177 & 332	2015
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2014
09.2.4.1	Cooked fish and fish products	GMP	16 & 325	2015
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	GMP	16 & 325	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41, 325 & 332	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, 332, XS167, XS189, XS222, XS236, XS244 & XS311	2018
10.2.1	Liquid egg products	GMP		2014
10.2.2	Frozen egg products	GMP		2014
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

SODIUM DIACETATE

INS 262(ii)

Sodium diacetate

Functional Class: Acidity regulator, Preservative, Sequestrant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
02.2.2	Fat spreads, dairy fat spreads and blended spreads	1000 mg/kg	XS253	2016
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	1000 mg/kg		2016
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	1000 mg/kg		2016

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	1000 mg/kg	XS309R	2016
07.1	Bread and ordinary bakery wares	4000 mg/kg		2017
08.2	Processed meat, poultry, and game products in whole pieces or cuts	1000 mg/kg	XS96 & XS97	2016
08.3	Processed comminuted meat, poultry, and game products	1000 mg/kg	XS88, XS89 & XS98	2016
10.4	Egg-based desserts (e.g. custard)	2000 mg/kg		2018
12.5	Soups and broths	500 mg/kg	XS117	2018
12.6.1	Emulsified sauces and dips (e.g. mayonnaise, salad dressing, onion dip)	2500 mg/kg		2018
12.6.2	Non-emulsified sauces (e.g. ketchup, cheese sauce, cream sauce, brown gravy)	2500 mg/kg	XS306R	2018
12.6.3	Mixes for sauces and gravies	2500 mg/kg	127	2018
12.6.4	Clear sauces (e.g. fish sauce)	2500 mg/kg	XS302	2018
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	1000 mg/kg		2018

SODIUM DIHYDROGEN CITRATE

INS 331(i) Sodium dihydrogen citrate Functional Class: Acidity regulator, Emulsifier, Emulsifying salt, Sequestrant, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.3	Fluid buttermilk (plain)	GMP	261	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
01.8.2	Dried whey and whey products, excluding whey cheeses	GMP		2006
02.1.1	Butter oil, anhydrous milkfat, ghee	GMP	171	2006
02.1.2	Vegetable oils and fats	GMP	511, XS33	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	GMP	522, XS329	2021
04.2.1.1	Untreated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes [(including soybeans)], and aloe vera), seaweeds, and nuts and seeds	GMP	262	2015
04.2.2.1	Frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	GMP	29	2015
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2	Processed fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	253, 391, XS36, XS92, XS95, XS167, XS189, XS190, XS191, XS222, XS236, XS244, XS292, XS311, XS312 & XS315	2018
10.2.1	Liquid egg products	GMP		2013
10.2.2	Frozen egg products	GMP		2013
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2013
12.1.2	Salt Substitutes	GMP		2013
13.1.1	Infant formulae	GMP	55 & 72	2014
13.1.2	Follow-up formulae	GMP	72 & 316	2015
13.1.3	Formulae for special medical purposes for infants	GMP	55 & 72	2014
13.2	Complementary foods for infants and young children	5000 mg/kg	238, 240, 319 & 320	2015
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2013

SODIUM DL-MALATE

INS 350(ii)

Sodium DL-malate

Functional Class: Acidity regulator, Humectant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
06.4.1	Fresh pastas and noodles and like products	GMP		2013
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2015
09.2.4	Cooked and/or fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP		2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS167, XS189, XS222, XS236, XS244 & XS311	2018
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2013

SODIUM ERYTHORBATE (SODIUM ISOASCORBATE)

INS 316

Sodium erythorbate (Sodium isoascorbate)

Functional Class: Antioxidant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
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Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP	280	2014
09.1.2	Fresh mollusks, crustaceans, and echinoderms	GMP	390, XS312 & XS315	2017
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	308, 392, XS36, XS92, XS95, XS165, XS190, XS191, XS312 & XS315	2017
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	382, XS167, XS189, XS222, XS236 & XS244	2018

SODIUM FUMARATES

INS 365 Sodium fumarates Functional Class: Acidity regulator

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2013
09.2.4	Cooked and/or fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP		2013
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS167, XS189, XS222, XS236, XS244 & XS311	2018
12.1.2	Salt Substitutes	GMP		2013
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2013

SODIUM GLUCONATE

INS 576 Sodium gluconate Functional Class: Sequestrant, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
06.4.2	Dried pastas and noodles and like products	GMP	256	2014

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2	Processed fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS36, XS92, XS95, XS165, XS166, XS167, XS189, XS190, XS191, XS222, XS236, XS244, XS292, XS311, XS312 & XS315	2017
12.1.2	Salt Substitutes	GMP		2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

SODIUM HYDROGEN CARBONATE

INS 500(ii) Sodium hydrogen carbonate Functional Class: Acidity regulator, Anticaking agent, Raising agent, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP		2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
01.8.2	Dried whey and whey products, excluding whey cheeses	GMP		2006
02.2.1	Butter	GMP		2008
06.4.1	Fresh pastas and noodles and like products	GMP		2013
06.4.2	Dried pastas and noodles and like products	GMP	256	2013
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2013
12.2.1	Herbs and spices	GMP	534	2021
13.1.1	Infant formulae	2000 mg/kg	55 & 72	2013
13.1.2	Follow-up formulae	GMP	72 & 316	2015
13.1.3	Formulae for special medical purposes for infants	2000 mg/kg	55 & 72	2013
13.2	Complementary foods for infants and young children	GMP	240, 319 & 320	2015
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2013

SODIUM HYDROXIDE

INS 524 Sodium hydroxide Functional Class: Acidity regulator

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	410	2019
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP		2013
01.8.2	Dried whey and whey products, excluding whey cheeses	GMP		2006
02.2.1	Butter	GMP		2008

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
13.1.1	Infant formulae	2000 mg/kg	55 & 72	2013
13.1.2	Follow-up formulae	GMP	72 & 316	2015
13.1.3	Formulae for special medical purposes for infants	2000 mg/kg	55 & 72	2013
13.2	Complementary foods for infants and young children	GMP	239, 319 & 320	2015

SODIUM LACTATE

INS 325 Sodium lactate Functional Class: Acidity regulator, Antioxidant, Bulking agent, Emulsifier, Emulsifying salt, Humectant, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.3	Fluid buttermilk (plain)	GMP	261	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP		2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
06.4.1	Fresh pastas and noodles and like products	GMP		2013
06.4.2	Dried pastas and noodles and like products	GMP	256	2013
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2015
09.2.4	Cooked and/or fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP		2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	437, XS167, XS189, XS222, XS236 & XS244	2018
10.2.1	Liquid egg products	GMP		2013
10.2.2	Frozen egg products	GMP		2013
13.2	Complementary foods for infants and young children	GMP	83, 239, 319 & 320	2015
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2013

SODIUM PROPIONATE

INS 281 Sodium propionate Functional Class: Preservative

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
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Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.6.2.1	Ripened cheese, includes rind	GMP	3, 460, 503, XS208, XS269, XS274, XS276, XS277, XS278	2021
01.6.6	Whey protein cheese	3000 mg/kg	70	2006

SODIUM SESQUICARBONATE

INS 500(iii) Sodium sesquicarbonate Functional Class: Acidity regulator, Anticaking agent, Raising agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.4.1	Pasteurized cream (plain)	GMP		2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
01.8.2	Dried whey and whey products, excluding whey cheeses	GMP		2006
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2013
12.2.1	Herbs and spices	GMP	534	2021

SORBATES

INS 200 Sorbic acid Functional Class: Preservative

INS 202 Potassium sorbate Functional Class: Preservative

INS 203 Calcium sorbate Functional Class: Preservative

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	1000 mg/kg	42 & 220	2012
01.2.2	Renneted milk (plain)	1000 mg/kg	42	2012
01.3.2	Beverage whiteners	200 mg/kg	42, XS250 & XS252	2021
01.6.1	Unripened cheese	1000 mg/kg	42, 223, 492, 494	2021
01.6.2	Ripened cheese	3000 mg/kg	42, 457, 499, 501, XS208, XS274, XS276, XS277	2021
01.6.3	Whey cheese	1000 mg/kg	42	2006
01.6.4	Processed cheese	3000 mg/kg	42	2012
01.6.5	Cheese analogues	3000 mg/kg	3 & 42	2010
01.6.6	Whey protein cheese	3000 mg/kg	42	2006
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	1000 mg/kg	42	2012
02.2.2	Fat spreads, dairy fat spreads and blended spreads	2000 mg/kg	42, 529	2021
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	1000 mg/kg	42	2009

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	1000 mg/kg	42	2010
04.1.2.2	Dried fruit	500 mg/kg	42	2012
04.1.2.3	Fruit in vinegar, oil, or brine	1000 mg/kg	42	2009
04.1.2.5	Jams, jellies, marmelades	1000 mg/kg	42	2012
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	1000 mg/kg	42	2009
04.1.2.7	Candied fruit	500 mg/kg	42	2012
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	1000 mg/kg	42	2012
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	1000 mg/kg	42	2012
04.1.2.10	Fermented fruit products	1000 mg/kg	42	2009
04.1.2.11	Fruit fillings for pastries	1000 mg/kg	42	2009
04.1.2.12	Cooked fruit	1200 mg/kg	42	2009
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	1000 mg/kg	42	2012
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	1000 mg/kg	42	2012
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	1000 mg/kg	42	2012
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	1000 mg/kg	42	2012
04.2.2.8	Cooked or fried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	1000 mg/kg	42 & 221	2012
05.1.2	Cocoa mixes (syrups)	1000 mg/kg	42	2012
05.1.3	Cocoa-based spreads, including fillings	1000 mg/kg	42 & XS86	2016
05.1.5	Imitation chocolate, chocolate substitute products	1500 mg/kg	42	2009
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	1500 mg/kg	42 & XS309R	2017
05.3	Chewing gum	1500 mg/kg	42	2009
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	1000 mg/kg	42	2012
06.4.3	Pre-cooked pastas and noodles and like products	2000 mg/kg	42 & 211	2012
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	1000 mg/kg	42	2012
06.6	Batters (e.g. for breading or batters for fish or poultry)	2000 mg/kg	42	2009
07.0	Bakery wares	1000 mg/kg	42	2012

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
08.2.1.1	Cured (including salted) non-heat treated processed meat, poultry, and game products in whole pieces or cuts	200 mg/kg	3 & 42	2016
08.2.1.2	Cured (including salted) and dried non-heat treated processed meat, poultry, and game products in whole pieces or cuts	2000 mg/kg	3 & 42	2016
08.2.1.3	Fermented non-heat treated processed meat, poultry, and game products in whole pieces or cuts	200 mg/kg	3 & 42	2016
08.2.2	Heat-treated processed meat, poultry, and game products in whole pieces or cuts	200 mg/kg	3, 42, XS96 & XS97	2016
08.2.3	Frozen processed meat, poultry, and game products in whole pieces or cuts	200 mg/kg	3 & 42	2016
08.3	Processed comminuted meat, poultry, and game products	1500 mg/kg	42, XS88, XS89 & XS98	2016
08.4	Edible casings (e.g. sausage casings)	10000 mg/kg	42, 222 & 365	2016
09.2.4.1	Cooked fish and fish products	2000 mg/kg	42	2009
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	2000 mg/kg	42 & 82	2009
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	1000 mg/kg	20, 42, XS189, XS222 & XS236	2018
09.3	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms	1000 mg/kg	42 & XS291	2018
10.2.1	Liquid egg products	5000 mg/kg	42	2009
10.2.2	Frozen egg products	1000 mg/kg	42	2009
10.2.3	Dried and/or heat coagulated egg products	1000 mg/kg	42	2009
10.4	Egg-based desserts (e.g. custard)	1000 mg/kg	42	2009
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	1000 mg/kg	42	2009
11.6	Table-top sweeteners, including those containing high-intensity sweeteners	1000 mg/kg	42 & 192	2010
12.2	Herbs, spices, seasonings and condiments (e.g. seasoning for instant noodles)	1000 mg/kg	42, XS326, XS327, XS328	2021
12.4	Mustards	1000 mg/kg	42	2012
12.5	Soups and broths	1000 mg/kg	42, 338 & 339	2015
12.6	Sauces and like products	1000 mg/kg	42 & 127	2012
12.7	Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	1500 mg/kg	42	2009
12.9.1	Fermented soybean paste (e.g., miso)	1000 mg/kg	42	2010
12.9.2.1	Fermented soybean sauce	1000 mg/kg	42	2010
12.9.2.3	Other soybean sauces	1000 mg/kg	42	2010
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	1500 mg/kg	42	2009
13.4	Dietetic formulae for slimming purposes and weight reduction	1500 mg/kg	42	2009
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	1500 mg/kg	42	2012
13.6	Food supplements	2000 mg/kg	42	2012

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.1.2.1	Fruit juice	1000 mg/kg	42, 91 & 122	2005
14.1.2.3	Concentrates for fruit juice	1000 mg/kg	42, 91, 122 & 127	2005
14.1.3.1	Fruit nectar	1000 mg/kg	42, 91 & 122	2005
14.1.3.3	Concentrates for fruit nectar	1000 mg/kg	42, 91, 122 & 127	2005
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	500 mg/kg	42 & 127	2012
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	500 mg/kg	42 & 160	2012
14.2.2	Cider and perry	500 mg/kg	42	2012
14.2.3	Grape wines	200 mg/kg	42	2012
14.2.4	Wines (other than grape)	500 mg/kg	42	2012
14.2.5	Mead	200 mg/kg	42	2012
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	500 mg/kg	42 & 224	2012
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	1000 mg/kg	42	2009
15.2	Processed nuts, including coated nuts and nut mixtures (with e.g. dried fruit)	1000 mg/kg	42	2009

SORBITAN ESTERS OF FATTY ACIDS

INS 491	Sorbitan monostearate	Functional Class: Emulsifier, Stabilizer
INS 492	Sorbitan tristearate	Functional Class: Emulsifier, Stabilizer
INS 493	Sorbitan monolaurate	Functional Class: Emulsifier, Stabilizer
INS 494	Sorbitan monooleate	Functional Class: Emulsifier, Stabilizer
INS 495	Sorbitan monopalmitate	Functional Class: Emulsifier

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	5000 mg/kg		2017
01.3.2	Beverage whiteners	4000 mg/kg	XS250 & XS252	2016
01.4.4	Cream analogues	5000 mg/kg	349	2016
01.5.2	Milk and cream powder analogues	4000 mg/kg	XS251	2016
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	5000 mg/kg	362	2019
02.2.2	Fat spreads, dairy fat spreads and blended spreads	10000 mg/kg	359	2016
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	5000 mg/kg	363	2016
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	10000 mg/kg		2016
03.0	Edible ices, including sherbet and sorbet	1000 mg/kg		2016
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	5000 mg/kg	XS240 & XS314R	2016

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	5000 mg/kg		2016
04.1.2.11	Fruit fillings for pastries	5000 mg/kg		2016
04.2.2.2	Dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	5000 mg/kg	76	2016
05.1.1	Cocoa mixes (powders) and cocoa mass/cake	2000 mg/kg	97, 123 & XS141	2016
05.1.3	Cocoa-based spreads, including fillings	10000 mg/kg	XS86	2017
05.1.4	Cocoa and chocolate products	10000 mg/kg	101	2016
05.1.5	Imitation chocolate, chocolate substitute products	10000 mg/kg		2017
05.2.1	Hard candy	10000 mg/kg		2017
05.2.2	Soft candy	10000 mg/kg	XS309R	2017
05.2.3	Nougats and marzipans	10000 mg/kg		2017
05.3	Chewing gum	5000 mg/kg		2016
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	10000 mg/kg		2016
06.4.2	Dried pastas and noodles and like products	5000 mg/kg	11 & 211	2016
06.4.3	Pre-cooked pastas and noodles and like products	5000 mg/kg	2 & 194	2019
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	5000 mg/kg		2016
07.1.1	Breads and rolls	3000 mg/kg		2017
07.1.2	Crackers, excluding sweet crackers	10000 mg/kg	11	2016
07.1.3	Other ordinary bakery products (e.g. bagels, pita, English muffins)	10000 mg/kg	11	2016
07.1.4	Bread-type products, including bread stuffing and bread crumbs	10000 mg/kg	11	2016
07.1.5	Steamed breads and buns	10000 mg/kg	11	2016
07.1.6	Mixes for bread and ordinary bakery wares	10000 mg/kg	11	2016
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	10000 mg/kg		2016
10.2.1	Liquid egg products	500 mg/kg		2019
10.2.2	Frozen egg products	500 mg/kg		2019
10.2.3	Dried and/or heat coagulated egg products	500 mg/kg	452	2019
10.4	Egg-based desserts (e.g. custard)	5000 mg/kg		2018
12.5.2	Mixes for soups and broths	250 mg/kg	127, XS117	2018
12.6.1	Emulsified sauces and dips (e.g. mayonnaise, salad dressing, onion dip)	5000 mg/kg		2018
12.6.3	Mixes for sauces and gravies	50 mg/kg	127	2018
12.8	Yeast and like products	15000 mg/kg		2018
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	1000 mg/kg		2018
13.4	Dietetic formulae for slimming purposes and weight reduction	1000 mg/kg		2018

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	5000 mg/kg		2018
13.6	Food supplements	10000 mg/kg	364	2018
14.1.4.1	Carbonated water-based flavoured drinks	500 mg/kg		2018
14.1.4.2	Non-carbonated water-based flavoured drinks, including punches and ades	500 mg/kg		2018
14.1.4.3	Concentrates (liquid or solid) for water-based flavoured drinks	500 mg/kg	127	2018
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	500 mg/kg	429	2018
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	300 mg/kg		2018

STANNOUS CHLORIDE

INS 512 Stannous chloride Functional Class: Antioxidant, Colour retention agent

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.2.4	Canned or bottled (pasteurized) fruit	20 mg/kg	43 & 141	2018
04.2.2.4	Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	25 mg/kg	43	2001
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	20 mg/kg	43	2001

STARCH ACETATE

INS 1420 Starch acetate Functional Class: Emulsifier, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	63	2014
13.2	Complementary foods for infants and young children	50000 mg/kg	239 & 269	2014

STARCH SODIUM OCTENYL SUCCINATE

INS 1450 Starch sodium octenyl succinate Functional Class: Emulsifier, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2013

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
10.2.1	Liquid egg products	GMP		2015
10.2.2	Frozen egg products	GMP		2015
13.1.3	Formulae for special medical purposes for infants	20000 mg/kg	376 & 381	2016
13.2	Complementary foods for infants and young children	50000 mg/kg	239 & 269	2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2015

STARCHES, ENZYME TREATED

INS 1405 Starches, enzyme treated Functional Class: Emulsifier, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

STEAROYL LACTYLATES

INS 481(i) Sodium stearoyl lactylate Functional Class: Emulsifier, Flour treatment agent, Foaming agent, Stabilizer

INS 482(i) Calcium stearoyl lactylate Functional Class: Emulsifier, Flour treatment agent, Foaming agent, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	1000 mg/kg		2017
01.3.2	Beverage whiteners	3000 mg/kg	XS250 & XS252	2016
01.4.4	Cream analogues	5000 mg/kg	2	2016
01.6.5	Cheese analogues	2000 mg/kg		2016
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	5000 mg/kg	355	2016
02.2.2	Fat spreads, dairy fat spreads and blended spreads	10000 mg/kg		2009
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	3000 mg/kg		2016
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	5000 mg/kg		2016

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
03.0	Edible ices, including sherbet and sorbet	5000 mg/kg	15	2016
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	2000 mg/kg	XS240 & XS314R	2016
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	5000 mg/kg		2016
04.1.2.11	Fruit fillings for pastries	2000 mg/kg		2016
04.2.2.2	Dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	5000 mg/kg	76	2016
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	5000 mg/kg	XS309R	2016
05.3	Chewing gum	2000 mg/kg		2016
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	2000 mg/kg		2016
06.2.1	Flours	5000 mg/kg	186 & XS152	2019
06.3	Breakfast cereals, including rolled oats	5000 mg/kg		2016
06.4.2	Dried pastas and noodles and like products	5000 mg/kg	211	2016
06.4.3	Pre-cooked pastas and noodles and like products	5000 mg/kg	194 & 371	2016
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	6000 mg/kg		2016
07.1.1.1	Yeast-leavened breads and specialty breads	3000 mg/kg	388	2017
07.1.1.2	Soda breads	3000 mg/kg		2016
07.1.2	Crackers, excluding sweet crackers	3000 mg/kg		2016
07.1.3	Other ordinary bakery products (e.g. bagels, pita, English muffins)	5000 mg/kg		2016
07.1.4	Bread-type products, including bread stuffing and bread crumbs	5000 mg/kg		2016
07.1.5	Steamed breads and buns	3000 mg/kg		2016
07.1.6	Mixes for bread and ordinary bakery wares	5000 mg/kg		2016
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	5000 mg/kg		2016
08.2.2	Heat-treated processed meat, poultry, and game products in whole pieces or cuts	2000 mg/kg	373, XS96 & XS97	2016
08.3.2	Heat-treated processed comminuted meat, poultry, and game products	2000 mg/kg	XS88, XS89 & XS98	2016
10.2.1	Liquid egg products	500 mg/kg		2018
10.2.2	Frozen egg products	500 mg/kg		2018
10.2.3	Dried and/or heat coagulated egg products	5000 mg/kg		2018
12.6.1	Emulsified sauces and dips (e.g. mayonnaise, salad dressing, onion dip)	2500 mg/kg	427	2018
12.6.2	Non-emulsified sauces (e.g. ketchup, cheese sauce, cream sauce, brown gravy)	2500 mg/kg	XS306R	2018
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	2000 mg/kg		2018
13.4	Dietetic formulae for slimming purposes and weight reduction	2000 mg/kg		2018

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	8000 mg/kg	430	2018
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	5000 mg/kg	432	2018

STEARYL CITRATE

INS 484 Stearyl citrate Functional Class: Antioxidant, Emulsifier, Sequestrant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
02.1.2	Vegetable oils and fats	GMP	XS19, XS33, XS210	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	GMP	XS19, XS211	2021
02.2.2	Fat spreads, dairy fat spreads and blended spreads	100 mg/kg	15	2012
05.3	Chewing gum	15000 mg/kg		1999
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	500 mg/kg		1999

STEVIOLE GLYCOSIDES

INS 960a Steviol glycosides from *Stevia rebaudiana* Bertoni (Steviol glycosides from *Stevia*) Functional Class: Sweetener

INS 960b Steviol glycosides from fermentation Functional Class: Sweetener

INS 960c Enzymatically produced steviol glycosides Functional Class: Sweetener

INS 960d Glucosylated steviol glycosides Functional Class: Sweetener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	200 mg/kg	26 & XS243	2017
01.5.2	Milk and cream powder analogues	330 mg/kg	26, 201 & XS251	2021
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	330 mg/kg	26	2011
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	330 mg/kg	26	2011
03.0	Edible ices, including sherbet and sorbet	270 mg/kg	26	2011
04.1.2.3	Fruit in vinegar, oil, or brine	100 mg/kg	26	2011
04.1.2.4	Canned or bottled (pasteurized) fruit	330 mg/kg	26 & XS319	2018
04.1.2.5	Jams, jellies, marmelades	360 mg/kg	26	2011
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	330 mg/kg	26	2011
04.1.2.7	Candied fruit	40 mg/kg	26	2011
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	330 mg/kg	26	2011

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	350 mg/kg	26	2011
04.1.2.10	Fermented fruit products	115 mg/kg	26	2011
04.1.2.11	Fruit fillings for pastries	330 mg/kg	26	2011
04.1.2.12	Cooked fruit	40 mg/kg	26	2011
04.2.2.2	Dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	40 mg/kg	26	2011
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	330 mg/kg	26	2011
04.2.2.4	Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	70 mg/kg	26	2011
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	330 mg/kg	26	2011
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	165 mg/kg	26	2011
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	200 mg/kg	26	2011
04.2.2.8	Cooked or fried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	40 mg/kg	26	2011
05.1.3	Cocoa-based spreads, including fillings	350 mg/kg	26, 477 & XS86	2021
05.1.4	Cocoa and chocolate products	350 mg/kg	26 & 477	2021
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	700 mg/kg	26, 199 & XS309R	2017
05.3	Chewing gum	3500 mg/kg	26	2011
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	330 mg/kg	26 & 477	2021
06.3	Breakfast cereals, including rolled oats	350 mg/kg	26	2011
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	165 mg/kg	26	2011
06.8.1	Soybean-based beverages	200 mg/kg	26	2011
08.3.2	Heat-treated processed comminuted meat, poultry, and game products	100 mg/kg	26, 202, XS88, XS89 & XS98	2014
09.3.1	Fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly	100 mg/kg	26 & 144	2011
09.3.2	Fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine	165 mg/kg	26	2011
09.3.3	Salmon substitutes, caviar, and other fish roe products	100 mg/kg	26 & XS291	2018
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	100 mg/kg	26, XS3, XS37, XS70, XS90, XS94 & XS119	2018

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
10.4	Egg-based desserts (e.g. custard)	330 mg/kg	26	2011
11.6	Table-top sweeteners, including those containing high-intensity sweeteners	GMP	26	2011
12.2.2	Seasonings and condiments	30 mg/kg	26	2011
12.4	Mustards	130 mg/kg	26	2011
12.5	Soups and broths	50 mg/kg	26 & XS117	2015
12.6.1	Emulsified sauces and dips (e.g. mayonnaise, salad dressing, onion dip)	350 mg/kg	26	2011
12.6.2	Non-emulsified sauces (e.g. ketchup, cheese sauce, cream sauce, brown gravy)	350 mg/kg	26	2011
12.6.3	Mixes for sauces and gravies	350 mg/kg	26 & 127	2011
12.6.4	Clear sauces (e.g. fish sauce)	350 mg/kg	26 & XS302	2018
12.7	Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	115 mg/kg	26	2011
12.9.2.1	Fermented soybean sauce	30 mg/kg	26	2011
12.9.2.2	Non-fermented soybean sauce	165 mg/kg	26	2011
12.9.2.3	Other soybean sauces	165 mg/kg	26	2011
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	350 mg/kg	26	2011
13.4	Dietetic formulae for slimming purposes and weight reduction	270 mg/kg	26	2011
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	660 mg/kg	26, 198 & 294	2011
13.6	Food supplements	2500 mg/kg	26 & 203	2011
14.1.3	Fruit and vegetable nectars	200 mg/kg	26	2011
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	200 mg/kg	26	2011
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	200 mg/kg	26 & 160	2011
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	200 mg/kg	26	2011
15.0	Ready-to-eat savouries	170 mg/kg	26	2011

SUCRALOSE (TRICHLOROGALACTOSUCROSE)

INS 955

Sucralose
(Trichlorogalactosucrose)

Functional Class: Flavour enhancer, Sweetener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	300 mg/kg	478 & 404	2019
01.3.2	Beverage whiteners	580 mg/kg	201, 478, XS250, XS252	2021
01.4.4	Cream analogues	580 mg/kg	478 & 68	2021
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	400 mg/kg	478	2019

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	400 mg/kg	478	2021
03.0	Edible ices, including sherbet and sorbet	320 mg/kg	478	2019
04.1.2.1	Frozen fruit	400 mg/kg	478 & 358	2021
04.1.2.3	Fruit in vinegar, oil, or brine	180 mg/kg	144	2007
04.1.2.4	Canned or bottled (pasteurized) fruit	400 mg/kg	478 & XS319	2021
04.1.2.5	Jams, jellies, marmelades	400 mg/kg	478	2019
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	400 mg/kg	478	2019
04.1.2.7	Candied fruit	1500 mg/kg	478	2021
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	400 mg/kg	478	2019
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	400 mg/kg	478	2019
04.1.2.10	Fermented fruit products	150 mg/kg	478	2019
04.1.2.11	Fruit fillings for pastries	400 mg/kg	478	2021
04.1.2.12	Cooked fruit	150 mg/kg	478	2019
04.2.2.2	Dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	580 mg/kg	144 & 348	2021
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	400 mg/kg		2007
04.2.2.4	Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	580 mg/kg	478	2021
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	400 mg/kg	169 & 478	2021
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	400 mg/kg	478	2021
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	580 mg/kg	144	2021
04.2.2.8	Cooked or fried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	150 mg/kg	144, 478 & 345	2021
05.1.1	Cocoa mixes (powders) and cocoa mass/cake	580 mg/kg	97 & XS141	2016
05.1.2	Cocoa mixes (syrups)	400 mg/kg	97 & 478	2021
05.1.3	Cocoa-based spreads, including fillings	400 mg/kg	478, 169 & XS86	2019
05.1.4	Cocoa and chocolate products	800 mg/kg	478 & XS87	2019
05.1.5	Imitation chocolate, chocolate substitute products	800 mg/kg	478	2021
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	1800 mg/kg	478, 164 & XS309R	2019

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
05.3	Chewing gum	5000 mg/kg	478	2019
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	1000 mg/kg	478	2019
06.3	Breakfast cereals, including rolled oats	1000 mg/kg	478	2019
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	400 mg/kg	478	2021
06.7	Pre-cooked or processed rice products, including rice cakes (Oriental type only)	200 mg/kg	72	2007
06.8.1	Soybean-based beverages	400 mg/kg		2012
07.1	Bread and ordinary bakery wares	650 mg/kg	161	2008
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	700 mg/kg	165 & 478	2021
09.3	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms	120 mg/kg	144 & XS291	2018
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	120 mg/kg	144, XS3, XS37, XS70, XS90, XS94 & XS119	2018
10.4	Egg-based desserts (e.g. custard)	400 mg/kg	478	2019
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	1500 mg/kg	159 & 478	2021
11.6	Table-top sweeteners, including those containing high-intensity sweeteners	GMP		2007
12.2.1	Herbs and spices	400 mg/kg	161, XS326, XS327, XS328	2021
12.2.2	Seasonings and condiments	700 mg/kg	161	2008
12.3	Vinegars	400 mg/kg	478 & 277	2021
12.4	Mustards	140 mg/kg		2007
12.5	Soups and broths	600 mg/kg	478 & XS117	2019
12.6	Sauces and like products	450 mg/kg	127	2007
12.7	Salads (e.g. macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	1250 mg/kg	169 & 478	2021
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	400 mg/kg		2007
13.4	Dietetic formulae for slimming purposes and weight reduction	320 mg/kg		2007
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	400 mg/kg		2007
13.6	Food supplements	2400 mg/kg		2007
14.1.3.1	Fruit nectar	300 mg/kg		2005
14.1.3.2	Vegetable nectar	300 mg/kg	478	2021
14.1.3.3	Concentrates for fruit nectar	300 mg/kg	127	2005
14.1.3.4	Concentrates for vegetable nectar	300 mg/kg	127 & 478	2021
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	300 mg/kg	127 & 478	2019
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	300 mg/kg	160 & 478	2019

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	700 mg/kg	478	2021
15.0	Ready-to-eat savouries	1000 mg/kg	478	2021

SUCROSE ACETATE ISOBUTYRATE

INS 444 Sucrose acetate isobutyrate Functional Class: Emulsifier, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	500 mg/kg		1999

SUCROSE ESTERS

INS 473 Sucrose esters of fatty acids Functional Class: Emulsifier, Foaming agent, Glazing agent, Stabilizer

INS 473a Sucrose Oligoesters, Type I and Type II Functional Class: Emulsifier, Glazing agent, Stabilizer

INS 474 Sucroglycerides Functional Class: Emulsifier

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	1000 mg/kg	410	2021
01.1.4	Flavoured fluid milk drinks	5000 mg/kg		2021
01.3.2	Beverage whiteners	20000 mg/kg	XS250 & XS252	2021
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	5000 mg/kg		2021
01.4.4	Cream analogues	10000 mg/kg		2021
01.5.1	Milk powder and cream powder (plain)	10000 mg/kg	536, XS207 & XS290	2021
01.5.2	Milk and cream powder analogues	5000 mg/kg	350 & XS251	2021
01.6.4	Processed cheese	3000 mg/kg		2021
01.6.5	Cheese analogues	10000 mg/kg		2021
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	5000 mg/kg		2021
02.2.2	Fat spreads, dairy fat spreads and blended spreads	10000 mg/kg	360	2021
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	5000 mg/kg	102 & 363	2021
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	5000 mg/kg		2021
03.0	Edible ices, including sherbet and sorbet	5000 mg/kg		2021
04.1.1.2	Surface-treated fresh fruit	1500 mg/kg	454	2021
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	1500 mg/kg	XS314R	2021
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	5000 mg/kg		2021

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	5000 mg/kg	XS38, XS57, XS259R, XS308R, XS321 & 536	2021
05.1.1	Cocoa mixes (powders) and cocoa mass/cake	10000 mg/kg	97 & XS141	2021
05.1.2	Cocoa mixes (syrops)	10000 mg/kg		2021
05.1.3	Cocoa-based spreads, including fillings	10000 mg/kg	XS86	2021
05.1.5	Imitation chocolate, chocolate substitute products	6000 mg/kg		2021
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	5000 mg/kg	XS309R	2021
05.3	Chewing gum	12000 mg/kg		2021
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	5000 mg/kg	387	2021
06.3	Breakfast cereals, including rolled oats	10000 mg/kg		2021
06.4.1	Fresh pastas and noodles and like products	2000 mg/kg	370	2021
06.4.2	Dried pastas and noodles and like products	4000 mg/kg	211	2021
06.4.3	Pre-cooked pastas and noodles and like products	2000 mg/kg	194	2021
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	5000 mg/kg		2021
06.6	Batters (e.g. for breading or batters for fish or poultry)	10000 mg/kg		2021
06.7	Pre-cooked or processed rice products, including rice cakes (Oriental type only)	10000 mg/kg		2021
06.8.1	Soybean-based beverages	20000 mg/kg		2021
07.1	Bread and ordinary bakery wares	3000 mg/kg		2021
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	10000 mg/kg		2021
08.2.2	Heat-treated processed meat, poultry, and game products in whole pieces or cuts	5000 mg/kg	15, XS96 & XS97	2021
08.3.2	Heat-treated processed comminuted meat, poultry, and game products	5000 mg/kg	15, 373, XS88, XS89 & XS98	2021
09.2.4.1	Cooked fish and fish products	4500 mg/kg	241	2021
10.4	Egg-based desserts (e.g. custard)	5000 mg/kg		2021
12.2.1	Herbs and spices	2000 mg/kg	422, XS326, XS327 & XS328	2021
12.2.2	Seasonings and condiments	20000 mg/kg	423 & 424	2021
12.5	Soups and broths	2000 mg/kg		2021
12.6.1	Emulsified sauces and dips (e.g. mayonnaise, salad dressing, onion dip)	2000 mg/kg	426	2021
12.6.2	Non-emulsified sauces (e.g. ketchup, cheese sauce, cream sauce, brown gravy)	10000 mg/kg	537	2021
12.6.3	Mixes for sauces and gravies	10000 mg/kg	127	2021
12.6.4	Clear sauces (e.g. fish sauce)	10000 mg/kg	XS302	2021
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	5000 mg/kg		2021

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
13.4	Dietetic formulae for slimming purposes and weight reduction	5000 mg/kg		2021
13.6	Food supplements	20000 mg/kg		2021
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	200 mg/kg	219	2021
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	1000 mg/kg	176	2021
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	5000 mg/kg	431	2021
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	5000 mg/kg	536	2021
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	5000 mg/kg	433	2021

SULFITES

INS 220	Sulfur dioxide	Functional Class: Antioxidant, Bleaching agent, Flour treatment agent, Preservative
INS 221	Sodium sulfite	Functional Class: Antioxidant, Bleaching agent, Flour treatment agent, Preservative
INS 222	Sodium hydrogen sulfite	Functional Class: Antioxidant, Preservative
INS 223	Sodium metabisulfite	Functional Class: Antioxidant, Bleaching agent, Flour treatment agent, Preservative
INS 224	Potassium metabisulfite	Functional Class: Antioxidant, Bleaching agent, Flour treatment agent, Preservative
INS 225	Potassium sulfite	Functional Class: Antioxidant, Preservative
INS 539	Sodium thiosulfate	Functional Class: Antioxidant, Sequestrant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.1.2	Surface-treated fresh fruit	30 mg/kg	44 & 204	2011
04.1.2.1	Frozen fruit	500 mg/kg	44 & 155	2007
04.1.2.2	Dried fruit	1000 mg/kg	44, 135 & 218	2011
04.1.2.3	Fruit in vinegar, oil, or brine	100 mg/kg	44	2006
04.1.2.5	Jams, jellies, marmelades	100 mg/kg	44	2008
04.1.2.7	Candied fruit	100 mg/kg	44	2006
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	100 mg/kg	44 & 206	2012
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	100 mg/kg	44	2008
04.1.2.10	Fermented fruit products	100 mg/kg	44	2008
04.1.2.11	Fruit fillings for pastries	100 mg/kg	44	2006
04.2.1.3	Peeled, cut or shredded fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	50 mg/kg	44, 76 & 136	2006
04.2.2.1	Frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	50 mg/kg	44, 76, 136 & 137	2006

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.2.2.2	Dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	500 mg/kg	44 & 105	2006
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	100 mg/kg	44	2006
04.2.2.4	Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	50 mg/kg	44	2006
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	500 mg/kg	44 & 138	2006
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	300 mg/kg	44 & 205	2011
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	500 mg/kg	44	2006
06.2.1	Flours	200 mg/kg	44, 470	2019
06.2.2	Starches	50 mg/kg	44	2006
06.4.3	Pre-cooked pastas and noodles and like products	20 mg/kg	44, 476	2019
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	50 mg/kg	44	2006
09.1.2	Fresh mollusks, crustaceans, and echinoderms	100 mg/kg	44, 390, XS312 & XS315	2017
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	100 mg/kg	19, 44, 139, 392, XS36, XS165, XS190, XS191, XS312 & XS315	2017
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	150 mg/kg	44	2007
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	30 mg/kg	44, XS167, XS189, XS222, XS236, XS244 & XS311	2018
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	150 mg/kg	44, 140, XS3, XS37, XS70, XS90, XS94 & XS119	2018
11.1.1	White sugar, dextrose anhydrous, dextrose monohydrate, fructose	15 mg/kg	44	2005
11.1.2	Powdered sugar, powdered dextrose	15 mg/kg	44	2005
11.1.3	Soft white sugar, soft brown sugar, glucose syrup, dried glucose syrup, raw cane sugar	20 mg/kg	44 & 111	2006
11.1.5	Plantation or mill white sugar	70 mg/kg	44	2005
11.2	Brown sugar excluding products of food category 11.1.3	40 mg/kg	44	2006
11.3	Sugar solutions and syrups, also (partially) inverted, including treacle and molasses, excluding products of food category 11.1.3	70 mg/kg	44	2007

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	40 mg/kg	44	2006
12.2.1	Herbs and spices	150 mg/kg	44, 532, XS327, XS328	2006
12.2.2	Seasonings and condiments	200 mg/kg	44	2006
12.3	Vinegars	100 mg/kg	44	2006
12.4	Mustards	250 mg/kg	44 & 106	2007
12.6	Sauces and like products	300 mg/kg	44 & XS302	2018
14.1.2.1	Fruit juice	50 mg/kg	44 & 122	2005
14.1.2.2	Vegetable juice	50 mg/kg	44 & 122	2006
14.1.2.3	Concentrates for fruit juice	50 mg/kg	44, 122 & 127	2005
14.1.2.4	Concentrates for vegetable juice	50 mg/kg	44, 122 & 127	2006
14.1.3.1	Fruit nectar	50 mg/kg	44 & 122	2005
14.1.3.2	Vegetable nectar	50 mg/kg	44 & 122	2006
14.1.3.3	Concentrates for fruit nectar	50 mg/kg	44, 122 & 127	2005
14.1.3.4	Concentrates for vegetable nectar	50 mg/kg	44, 122 & 127	2006
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	70 mg/kg	44, 127 & 143	2006
14.2.1	Beer and malt beverages	50 mg/kg	44	2006
14.2.2	Cider and perry	200 mg/kg	44	2006
14.2.3	Grape wines	350 mg/kg	44 & 103	2006
14.2.4	Wines (other than grape)	200 mg/kg	44	2006
14.2.5	Mead	200 mg/kg	44	2006
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	200 mg/kg	44	2006
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	250 mg/kg	44	2011
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	50 mg/kg	44	2006

SUNSET YELLOW FCF

INS 110

Sunset yellow FCF

Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	300 mg/kg	52	2008
01.6.1	Unripened cheese	300 mg/kg	3, XS221, XS273, XS275	2021
01.6.2.2	Rind of ripened cheese	300 mg/kg		2008
01.6.4	Processed cheese	200 mg/kg	3	2008
01.6.5	Cheese analogues	300 mg/kg	3	2008

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	300 mg/kg	161	2009
02.1.3	Lard, tallow, fish oil, and other animal fats	300 mg/kg	161, XS19, XS211, XS329	2021
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	50 mg/kg		2008
03.0	Edible ices, including sherbet and sorbet	50 mg/kg		2008
04.1.2.5	Jams, jellies, marmelades	300 mg/kg	161	2008
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	300 mg/kg	161	2008
04.1.2.7	Candied fruit	200 mg/kg	161	2008
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	300 mg/kg	161 & 182	2008
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	50 mg/kg	161	2008
04.1.2.11	Fruit fillings for pastries	300 mg/kg	161	2008
04.2.1.2	Surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	300 mg/kg	4 & 16	2008
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g. vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	50 mg/kg	92	2008
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	200 mg/kg	92	2008
05.1.4	Cocoa and chocolate products	400 mg/kg	183	2016
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	300 mg/kg	XS309R	2021
05.3	Chewing gum	300 mg/kg		2008
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	300 mg/kg		2008
06.3	Breakfast cereals, including rolled oats	300 mg/kg	161	2008
06.4.3	Pre-cooked pastas and noodles and like products	300 mg/kg	153	2008
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	50 mg/kg		2008
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	50 mg/kg		2008
08.1	Fresh meat, poultry, and game	300 mg/kg	4 & 16	2008
08.2	Processed meat, poultry, and game products in whole pieces or cuts	300 mg/kg	16, XS96 & XS97	2014
08.3.1.1	Cured (including salted) non-heat treated processed comminuted meat, poultry, and game products	300 mg/kg	16	2008
08.3.1.2	Cured (including salted) and dried non-heat treated processed comminuted meat, poultry, and game products	135 mg/kg		2008
08.3.1.3	Fermented non-heat treated processed comminuted meat, poultry, and game products	300 mg/kg	16	2008

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
08.3.2	Heat-treated processed comminuted meat, poultry, and game products	300 mg/kg	16, XS88, XS89 & XS98	2014
08.3.3	Frozen processed comminuted meat, poultry, and game products	300 mg/kg	16	2008
08.4	Edible casings (e.g. sausage casings)	300 mg/kg	16	2008
09.1.1	Fresh fish	300 mg/kg	4, 16 & 50	2008
09.1.2	Fresh mollusks, crustaceans, and echinoderms	300 mg/kg	4, 16, XS292, XS312 & XS315	2017
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	300 mg/kg	95, XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	300 mg/kg	16 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	300 mg/kg	16 & 95	2008
09.2.4.1	Cooked fish and fish products	300 mg/kg	95	2008
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms	250 mg/kg		2008
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	300 mg/kg	16	2008
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	100 mg/kg	382, XS167, XS189, XS222, XS236 & XS244	2018
09.3.1	Fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly	300 mg/kg	16	2008
09.3.2	Fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine	300 mg/kg	16	2008
09.3.3	Salmon substitutes, caviar, and other fish roe products	300 mg/kg	XS291	2018
09.3.4	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g. fish paste), excluding products of food categories 09.3.1 - 09.3.3	300 mg/kg		2008
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	300 mg/kg	95, 435, XS3, XS70, XS90, XS94 & XS119	2018
10.1	Fresh eggs	GMP	4	2008
10.4	Egg-based desserts (e.g. custard)	50 mg/kg		2008
12.2.2	Seasonings and condiments	300 mg/kg		2008
12.4	Mustards	300 mg/kg		2008
12.5	Soups and broths	50 mg/kg		2008
12.6	Sauces and like products	300 mg/kg	XS302	2018
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	50 mg/kg		2008
13.4	Dietetic formulae for slimming purposes and weight reduction	50 mg/kg		2008
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	300 mg/kg		2008
13.6	Food supplements	300 mg/kg		2008

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	100 mg/kg	127	2021
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	200 mg/kg		2008
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	200 mg/kg		2008
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	200 mg/kg		2008

TALC

INS 553(iii)

Talc

Functional Class: Anticaking agent, Glazing agent, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.6.1	Unripened cheese	GMP	3, 488, XS273, XS275	2021
01.6.2.1	Ripened cheese, includes rind	GMP	459, 461, 502, XS208, XS274, XS276, XS277, XS278	2021
01.8.2	Dried whey and whey products, excluding whey cheeses	10000 mg/kg		2006
12.1.2	Salt Substitutes	GMP		2015
12.2.1	Herbs and spices	GMP	534	2021

TAMARIND SEED POLYSACCHARIDE

INS 437

Tamarind seed polysaccharide

Functional Class: Emulsifying salt, Gelling agent, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2021
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2021
01.4.1	Pasteurized cream (plain)	GMP	236	2021
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2021
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP	XS38	2021
06.4.1	Fresh pastas and noodles and like products	GMP	211	2021
06.4.2	Dried pastas and noodles and like products	GMP	256	2021
09.2.4.1	Cooked fish and fish products	GMP	241 & 327	2021
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2021

Table One

TARA GUM

INS 417 Tara gum Functional Class: Gelling agent, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP	236	2013
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2015
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	73, XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	73 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP		2014
09.2.4.1	Cooked fish and fish products	GMP	241	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, XS167, XS189, XS222, XS236, XS244 & XS311	2018
10.2.1	Liquid egg products	GMP		2014
10.2.2	Frozen egg products	GMP		2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

TARTRATES

INS 334	L(+)-Tartaric acid	Functional Class: Acidity regulator, Antioxidant, Flavour enhancer, Sequestrant		
INS 335(ii)	Sodium L(+)-tartrate	Functional Class: Acidity regulator, Emulsifying salt, Sequestrant, Stabilizer		
INS 337	Potassium sodium L(+)-tartrate	Functional Class: Acidity regulator, Emulsifying salt, Sequestrant, Stabilizer		

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	2000 mg/kg	45 & 230	2016
01.6.1	Unripened cheese	1500 mg/kg	45 & 351	2016
01.6.4	Processed cheese	30000 mg/kg	45	2019

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	2000 mg/kg	45 & 449	2019
02.2.2	Fat spreads, dairy fat spreads and blended spreads	100 mg/kg	45 & 361	2016
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	100 mg/kg	45	2016
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	100 mg/kg	45	2016
03.0	Edible ices, including sherbet and sorbet	4000 mg/kg	45	2016
04.1.2.3	Fruit in vinegar, oil, or brine	1000 mg/kg	45	2018
04.1.2.5	Jams, jellies, marmelades	3000 mg/kg	45	2016
04.1.2.7	Candied fruit	20000 mg/kg	45	2017
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	1000 mg/kg	45	2016
04.1.2.11	Fruit fillings for pastries	10000 mg/kg	45	2016
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soybean sauce	15000 mg/kg	45, XS38 & XS115	2016
04.2.2.4	Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	1300 mg/kg	45, XS13, XS38, XS57, XS145, XS257R, XS259R & XS297	2017
05.1.1	Cocoa mixes (powders) and cocoa mass/cake	5000 mg/kg	45, 97 & 128	2016
05.1.2	Cocoa mixes (syrups)	2000 mg/kg	45	2016
05.1.3	Cocoa-based spreads, including fillings	2000 mg/kg	45 & XS86	2017
05.1.4	Cocoa and chocolate products	5000 mg/kg	45 & 128	2016
05.1.5	Imitation chocolate, chocolate substitute products	5000 mg/kg	45	2016
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	5000 mg/kg	45, XS309R & 450	2019
05.3	Chewing gum	30000 mg/kg	45	2016
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	8000 mg/kg	45	2016
06.2.1	Flours	5000 mg/kg	45, 186 & XS152	2019
06.2.2	Starches	2000 mg/kg	45	2017
06.4.1	Fresh pastas and noodles and like products	5000 mg/kg	45 & 128	2016
06.4.3	Pre-cooked pastas and noodles and like products	7500 mg/kg	45 & 128	2019
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	2860 mg/kg	45	2016
07.1	Bread and ordinary bakery wares	4000 mg/kg	45 & 388	2017
07.2.1	Cakes, cookies and pies (e.g. fruit-filled or custard types)	5000 mg/kg	45	2017
07.2.2	Other fine bakery products (e.g. doughnuts, sweet rolls, scones, and muffins)	500 mg/kg	45	2017
07.2.3	Mixes for fine bakery wares (e.g. cakes, pancakes)	8000 mg/kg	11 & 45	2017
08.3.1	Non-heat treated processed comminuted meat, poultry, and game products	500 mg/kg	45	2017

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
08.3.2	Heat-treated processed comminuted meat, poultry, and game products	500 mg/kg	45, XS88, XS89 & XS98	2017
08.3.3	Frozen processed comminuted meat, poultry, and game products	500 mg/kg	45	2017
08.4	Edible casings (e.g. sausage casings)	2000 mg/kg	45 & 365	2017
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	200 mg/kg	45, 128, 382, XS167, XS189, XS222, XS236 & XS244	2018
10.4	Egg-based desserts (e.g. custard)	2000 mg/kg	45	2018
11.6	Table-top sweeteners, including those containing high-intensity sweeteners	2000 mg/kg	45	2018
12.2.2	Seasonings and condiments	7500 mg/kg	45	2018
12.4	Mustards	5000 mg/kg	45	2018
12.5	Soups and broths	5000 mg/kg	45, XS117	2018
12.6.1	Emulsified sauces and dips (e.g. mayonnaise, salad dressing, onion dip)	2000 mg/kg	45	2018
12.6.2	Non-emulsified sauces (e.g. ketchup, cheese sauce, cream sauce, brown gravy)	5000 mg/kg	45, XS306R	2018
12.6.3	Mixes for sauces and gravies	5000 mg/kg	45, 127	2018
13.2	Complementary foods for infants and young children	5000 mg/kg	45, 364, XS73, 428	2018
13.6	Food supplements	5000 mg/kg	45	2018
14.1.2.1	Fruit juice	4000 mg/kg	45, 128 & 129	2005
14.1.2.3	Concentrates for fruit juice	4000 mg/kg	45, 127, 128 & 129	2005
14.1.3.1	Fruit nectar	4000 mg/kg	45 & 128	2005
14.1.3.3	Concentrates for fruit nectar	4000 mg/kg	45, 127 & 128	2005
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	800 mg/kg	45	2018
14.2.1	Beer and malt beverages	2000 mg/kg	45	2018
14.2.2	Cider and perry	2000 mg/kg	45	2018
14.2.4	Wines (other than grape)	4000 mg/kg	45	2018
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	3000 mg/kg	45, 431	2018
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	4000 mg/kg	45	2018
15.0	Ready-to-eat savouries	2000 mg/kg	45	2018

TARTRAZINE

INS 102

Tartrazine

Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	300 mg/kg	52	2017

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
05.1.3	Cocoa-based spreads, including fillings	100 mg/kg	XS86	2021
05.1.4	Cocoa and chocolate products	100 mg/kg	183	2021
05.1.5	Imitation chocolate, chocolate substitute products	100 mg/kg		2021
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	300 mg/kg		2019
05.3	Chewing gum	300 mg/kg		2019
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	500 mg/kg		2019
06.4.3	Pre-cooked pastas and noodles and like products	300 mg/kg	194	2019
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	100 mg/kg	382, XS167, XS189, XS222, XS236 & XS244	2018
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	30 mg/kg	435, XS3, XS70, XS90, XS94 & XS119	2018
12.5	Soups and broths	50 mg/kg	99	2015
13.6	Food supplements	300 mg/kg	539	2021
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	100 mg/kg	127	2021
14.2.1	Beer and malt beverages	500 mg/kg	425	2021
14.2.2	Cider and perry	200 mg/kg		2021
14.2.4	Wines (other than grape)	200 mg/kg		2021
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	200 mg/kg		2021
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	200 mg/kg		2021

TERTIARY BUTYLHYDROQUINONE

INS 319 Tertiary butylhydroquinone Functional Class: Antioxidant (TBHQ)

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.3.2	Beverage whiteners	100 mg/kg	15, 195, XS250 & XS252	2021
01.5.2	Milk and cream powder analogues	100 mg/kg	15 & 481	2021
02.1.1	Butter oil, anhydrous milkfat, ghee	120 mg/kg	15, 171, 514	2021
02.1.2	Vegetable oils and fats	200 mg/kg	15, 130, 511, 515, XS33	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	200 mg/kg	15, 130, 516	2021
02.2.2	Fat spreads, dairy fat spreads and blended spreads	200 mg/kg	15 & 130	2005
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	200 mg/kg	15 & 130	2005
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	200 mg/kg	15 & 130	2005
03.0	Edible ices, including sherbet and sorbet	200 mg/kg	15 & 195	2006

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
05.1.4	Cocoa and chocolate products	200 mg/kg	15, 130 & 303	2017
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	200 mg/kg	15, 130 & XS309R	2017
05.3	Chewing gum	400 mg/kg	130	2006
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	200 mg/kg	15 & 130	2006
06.4.3	Pre-cooked pastas and noodles and like products	200 mg/kg	15 & 130	2006
07.1.1	Breads and rolls	200 mg/kg	15 & 195	2006
07.1.2	Crackers, excluding sweet crackers	200 mg/kg	15 & 195	2006
07.1.3	Other ordinary bakery products (e.g. bagels, pita, English muffins)	200 mg/kg	15 & 130	2006
07.1.4	Bread-type products, including bread stuffing and bread crumbs	200 mg/kg	15 & 195	2006
08.2	Processed meat, poultry, and game products in whole pieces or cuts	100 mg/kg	15, 130, 167, XS96 & XS97	2014
08.3	Processed comminuted meat, poultry, and game products	100 mg/kg	15, 130, 162, XS88, XS89 & XS98	2014
12.2	Herbs, spices, seasonings and condiments (e.g. seasoning for instant noodles)	200 mg/kg	15, 130, XS326, XS327, XS328	2021
12.4	Mustards	200 mg/kg	15	2006
12.5	Soups and broths	200 mg/kg	15 & 130	2006
12.6	Sauces and like products	200 mg/kg	15, 130 XS302	2018
15.0	Ready-to-eat savouries	200 mg/kg	15 & 130	2005

THAUMATIN

INS 957

Thaumatococcus

Functional Class: Flavour enhancer, Sweetener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160 & 478	2021

THERMALLY OXIDIZED SOYA BEAN OIL INTERACTED WITH MONO- AND DIGLYCERIDES OF FATTY ACIDS

INS 479

Thermally oxidized soya bean oil interacted with mono- and diglycerides of fatty acids

Functional Class: Emulsifier

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
02.2.2	Fat spreads, dairy fat spreads and blended spreads	5000 mg/kg	531	2021

Table One

THIODIPROPIONATES

INS 388	Thiodipropionic acid	Functional Class: Antioxidant
INS 389	Dilauryl thiodipropionate	Functional Class: Antioxidant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
02.1.2	Vegetable oils and fats	200 mg/kg	46, 511, XS33	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	200 mg/kg	46, XS211	2021
02.2.2	Fat spreads, dairy fat spreads and blended spreads	200 mg/kg	46	1999
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	200 mg/kg	15, 46 & XS166	2017
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	1000 mg/kg	15 & 46	1999
15.0	Ready-to-eat savouries	200 mg/kg	46	1999

TOCOPHEROLS

INS 307a	d-alpha-Tocopherol	Functional Class: Antioxidant
INS 307b	Tocopherol concentrate, mixed	Functional Class: Antioxidant
INS 307c	dl-alpha-Tocopherol	Functional Class: Antioxidant

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	200 mg/kg	410	2018
01.1.4	Flavoured fluid milk drinks	200 mg/kg	15	2017
01.3.2	Beverage whiteners	200 mg/kg	XS250 & XS252	2017
01.4.4	Cream analogues	200 mg/kg		2017
01.6.1	Unripened cheese	200 mg/kg	168, 351, XS221, XS273	2021
01.6.2.3	Cheese powder (for reconstitution; e.g. for cheese sauces)	300 mg/kg		2017
01.6.4	Processed cheese	200 mg/kg		2018
01.6.5	Cheese analogues	400 mg/kg		2016
01.7	Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt)	500 mg/kg	XS243	2016
01.8	Whey and whey products, excluding whey cheeses	200 mg/kg		2016
02.1.1	Butter oil, anhydrous milkfat, ghee	500 mg/kg	171, 513	2021
02.1.2	Vegetable oils and fats	300 mg/kg	357, 511	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	300 mg/kg	527	2021
02.2.2	Fat spreads, dairy fat spreads and blended spreads	500 mg/kg		2009
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	900 mg/kg		2016
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	200 mg/kg		2016
03.0	Edible ices, including sherbet and sorbet	500 mg/kg	15	2016

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
04.1.2.2	Dried fruit	200 mg/kg	XS67, XS130	2018
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	200 mg/kg	XS160	2018
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	150 mg/kg	XS240 & XS314R	2016
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	500 mg/kg	15	2016
04.1.2.11	Fruit fillings for pastries	150 mg/kg		2016
04.2.2.2	Dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	200 mg/kg	XS38	2016
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	300 mg/kg	XS57	2017
05.1.2	Cocoa mixes (syrups)	500 mg/kg	15	2016
05.1.3	Cocoa-based spreads, including fillings	100 mg/kg	15 & XS86	2017
05.1.4	Cocoa and chocolate products	750 mg/kg	15 & 168	2016
05.1.5	Imitation chocolate, chocolate substitute products	500 mg/kg	15	2016
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	500 mg/kg	15 & XS309R	2016
05.3	Chewing gum	1500 mg/kg		2016
05.4	Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	500 mg/kg	15	2016
06.2.1	Flours	5000 mg/kg	15, 186 & XS152	2019
06.3	Breakfast cereals, including rolled oats	200 mg/kg		2016
06.4.2	Dried pastas and noodles and like products	500 mg/kg	211	2016
06.4.3	Pre-cooked pastas and noodles and like products	200 mg/kg	211	2016
06.5	Cereal and starch based desserts (e.g. rice pudding, tapioca pudding)	500 mg/kg	15	2016
06.6	Batters (e.g. for breading or batters for fish or poultry)	100 mg/kg		2016
07.1.2	Crackers, excluding sweet crackers	200 mg/kg		2017
07.1.6	Mixes for bread and ordinary bakery wares	100 mg/kg		2017
07.2.1	Cakes, cookies and pies (e.g. fruit-filled or custard types)	200 mg/kg	389	2017
07.2.2	Other fine bakery products (e.g. doughnuts, sweet rolls, scones, and muffins)	200 mg/kg		2017
07.2.3	Mixes for fine bakery wares (e.g. cakes, pancakes)	200 mg/kg	11	2017
08.1.2	Fresh meat, poultry, and game, comminuted	300 mg/kg	15 & 281	2017
08.2	Processed meat, poultry, and game products in whole pieces or cuts	500 mg/kg	XS96 & XS97	2016
08.3	Processed comminuted meat, poultry, and game products	500 mg/kg	XS88, XS89 & XS98	2016
08.4	Edible casings (e.g. sausage casings)	5000 mg/kg	365	2016
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	200 mg/kg	15, XS166	2018

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
10.4	Egg-based desserts (e.g. custard)	500 mg/kg	72	2019
12.2	Herbs, spices, seasonings and condiments (e.g. seasoning for instant noodles)	2000 mg/kg	421, XS326, XS327, XS328	2018
12.4	Mustards	200 mg/kg		2018
12.5	Soups and broths	50 mg/kg	346	2015
12.6.1	Emulsified sauces and dips (e.g. mayonnaise, salad dressing, onion dip)	600 mg/kg		2018
12.6.2	Non-emulsified sauces (e.g. ketchup, cheese sauce, cream sauce, brown gravy)	600 mg/kg		2018
12.6.3	Mixes for sauces and gravies	300 mg/kg	127	2018
13.1.1	Infant formulae	10 mg/kg	72, 416	2018
13.1.2	Follow-up formulae	30 mg/kg	72	2018
13.1.3	Formulae for special medical purposes for infants	10 mg/kg	72, 416	2018
13.2	Complementary foods for infants and young children	300 mg/kg	15	2018
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)	30 mg/kg		2018
13.4	Dietetic formulae for slimming purposes and weight reduction	300 mg/kg		2018
13.5	Dietetic foods (e.g. supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	300 mg/kg		2018
13.6	Food supplements	2000 mg/kg	418	2018
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	200 mg/kg	434	2018
14.2.7	Aromatized alcoholic beverages (e.g. beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	5 mg/kg		2018
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	200 mg/kg		2018
15.2	Processed nuts, including coated nuts and nut mixtures (with e.g. dried fruit)	200 mg/kg		2018

TRAGACANTH GUM

INS 413

Tragacanth gum

Functional Class: Emulsifier, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP	236	2013
06.4.1	Fresh pastas and noodles and like products	GMP	211	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS36, XS92, XS95, XS165, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	16 & XS166	2017
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP	16	2014
09.2.4.1	Cooked fish and fish products	GMP	241	2014
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2014
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, XS167, XS189, XS222, XS236, XS244 & XS311	2018
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

TRICALCIUM CITRATE

INS 333(iii)

Tricalcium citrate

Functional Class: Acidity regulator, Antioxidant, Emulsifying salt, Firming agent, Sequestrant, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
02.1.1	Butter oil, anhydrous milkfat, ghee	GMP	507	2021
02.1.2	Vegetable oils and fats	GMP	511, XS33	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	GMP	507, XS211	2021
04.2.2.1	Frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	GMP	29	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2	Processed fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	XS36, XS92, XS95, XS165, XS166, XS167, XS189, XS190, XS191, XS222, XS236, XS244, XS292, XS311, XS312 & XS315	2018
13.2	Complementary foods for infants and young children	GMP	239	2015

Table One

TRIETHYL CITRATE

INS 1505 Triethyl citrate Functional Class: Carrier, Emulsifier, Sequestrant, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
10.2.1	Liquid egg products	2500 mg/kg	47	1999
10.2.3	Dried and/or heat coagulated egg products	2500 mg/kg	47	1999
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	200 mg/kg		1999

TRIPOTASSIUM CITRATE

INS 332(ii) Tripotassium citrate Functional Class: Acidity regulator, Antioxidant, Emulsifying salt, Sequestrant, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.3	Fluid buttermilk (plain)	GMP	261	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
01.8.2	Dried whey and whey products, excluding whey cheeses	GMP		2006
02.1.1	Butter oil, anhydrous milkfat, ghee	GMP	507	2021
02.1.2	Vegetable oils and fats	GMP	511, XS33	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	GMP	507, XS211	2021
04.2.2.1	Frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	GMP	29	2015
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2	Processed fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	253, 391, XS36, XS92, XS95, XS167, XS189, XS190, XS191, XS222, XS236, XS244, XS292, XS311, XS312 & XS315	2018
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2013
12.1.2	Salt Substitutes	GMP		2013
13.1.1	Infant formulae	GMP	55 & 72	2014
13.1.2	Follow-up formulae	GMP	72	2013
13.1.3	Formulae for special medical purposes for infants	GMP	55 & 72	2014
13.2	Complementary foods for infants and young children	GMP	239	2013

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FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2013

TRISODIUM CITRATE

INS 331(iii) Trisodium citrate Functional Class: Acidity regulator, Emulsifier, Emulsifying salt, Sequestrant, Stabilizer

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	410	2018
01.1.3	Fluid buttermilk (plain)	GMP	261	2013
01.2.2	Renneted milk (plain)	GMP		2013
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
01.8.2	Dried whey and whey products, excluding whey cheeses	GMP		2006
02.1.1	Butter oil, anhydrous milkfat, ghee	GMP	171	2006
02.1.2	Vegetable oils and fats	GMP	511, XS33	2021
02.1.3	Lard, tallow, fish oil, and other animal fats	GMP	522, XS329	2021
04.2.1.1	Untreated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes [(including soybeans)], and aloe vera), seaweeds, and nuts and seeds	GMP	262	2015
04.2.2.1	Frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	GMP	29	2015
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
06.2.1	Flours	GMP	25 & XS152	2019
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2014
09.2	Processed fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	253, 391, XS36, XS92, XS95, XS167, XS189, XS190, XS191, XS222, XS236, XS244, XS292, XS311, XS312 & XS315	2018
10.2.1	Liquid egg products	GMP		2013
10.2.2	Frozen egg products	GMP		2013
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2013
12.1.2	Salt Substitutes	GMP		2013
13.1.1	Infant formulae	GMP	55 & 72	2014

Table One

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
13.1.2	Follow-up formulae	GMP	72 & 316	2015
13.1.3	Formulae for special medical purposes for infants	GMP	55 & 72	2014
13.2	Complementary foods for infants and young children	5000 mg/kg	238, 240, 319 & 320	2015
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2013

XANTHAN GUM

INS 415

Xanthan gum

Functional Class: Emulsifier, Foaming agent, Stabilizer, Thickener

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.2	Other fluid milk (plain)	GMP	407 & 438	2019
01.2.1.1	Fermented milks (plain), not heat-treated after fermentation	GMP	234 & 235	2013
01.2.1.2	Fermented milks (plain), heat-treated after fermentation	GMP	234	2013
01.2.2	Renneted milk (plain)	GMP		2015
01.4.1	Pasteurized cream (plain)	GMP	236	2013
01.4.2	Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP		2013
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3	GMP		2013
06.4.1	Fresh pastas and noodles and like products	GMP	211	2014
06.4.2	Dried pastas and noodles and like products	GMP	256	2014
08.1.1	Fresh meat, poultry, and game, whole pieces or cuts	GMP	16 & 326	2015
08.1.2	Fresh meat, poultry, and game, comminuted	GMP	281	2015
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	391, XS36, XS92, XS95, XS190, XS191, XS292, XS312 & XS315	2017
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	GMP	177	2014
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	GMP		2014
09.2.4.1	Cooked fish and fish products	GMP	241 & 327	2015
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	41	2015
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP	300, XS167, XS189, XS222, XS236, XS244 & XS311	2018
10.2.1	Liquid egg products	GMP		2014
10.2.2	Frozen egg products	GMP		2014

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FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
11.4	Other sugars and syrups (e.g. xylose, maple syrup, sugar toppings)	GMP	258	2014
12.1.2	Salt Substitutes	GMP		2014
13.1.3	Formulae for special medical purposes for infants	1000 mg/kg	381 & 479	2021
13.2	Complementary foods for infants and young children	10000 mg/kg	239 & 273	2014
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	GMP	160	2014

ZEAXANTHIN, SYNTHETIC

INS 161h(i) Zeaxanthin, synthetic Functional Class: Colour

FoodCatNo	FoodCategory	MaxLevel	Notes	Year Adopted
01.1.4	Flavoured fluid milk drinks	100 mg/kg	52 & 400	2017

Notes to the Comments for the Revised General Standard for Food Additives

Note	Except for use in products conforming to the Standard for Edible Fats and Oils not Covered by Individual Standards (CXS 19-1981): butylated hydroxyanisole (INS 320) at 175 mg/kg, butylated hydroxytoluene (INS 321) at 75 mg/kg, propyl gallate (INS 310) at 100 mg/kg, and tertiary butylhydroquinone (INS 319) at 120 mg/kg; as well, any combination of INS 320, INS 321, INS 310 and INS 319 at up to 200 mg/kg, provided the single use limits are not exceeded.
Note 1	As adipic acid.
Note 2	On the dry ingredient, dry weight, dry mix or concentrate basis.
Note 3	For use in surface treatment only.
Note 4	For use in decoration, stamping, marking or branding the product only.
Note 5	Excluding products conforming to the Standard for Jams, Jellies and Marmalades (CODEX STAN 296-2009).
Note 6	As aluminium.
Note 7	For use in coffee substitutes only.
Note 8	As bixin.
Note 9	Except for use in ready-to-drink coffee products at 10 000 mg/kg.
Note 10	As ascorbyl stearate.
Note 11	On the flour basis.
Note 12	As a result of carryover from flavouring substances.
Note 13	As benzoic acid.
Note 14	For use in hydrolyzed protein liquid formula only.
Note 15	On the fat or oil basis.
Note 16	For use in glaze, coatings or decorations for fruit, vegetables, meat or fish only.
Note 17	As cyclamic acid.
Note 18	As added level; residue not detected in ready-to-eat food.
Note 19	For use in products conforming to the Standard for Quick Frozen Shrimps and Prawns (CODEX STAN 92-1981) and the Standard for Quick Frozen Lobsters (CODEX STAN 95-1981): sulfur dioxide (INS 220), sodium sulfite (INS 221), sodium hydrogen sulfite (INS 222), sodium metabisulfite (INS 223), Potassium metabisulfite (INS 224), potassium sulfite (INS 225) as preservatives at 100 mg/kg in the edible part of the raw product, or 30 mg/kg in the edible part of the cooked product.
Note 20	Except for use in products conforming to the Standard for Salted Fish and Dried Salted Fish of the Gadidae Family of Fishes (CODEX STAN 167-1989) and the Standard for Salted Atlantic Herring and Salted Sprat (CODEX STAN 244-2004) at 200 mg/kg, and in smoked fish and smoke-flavoured fish in products conforming to the Standard for Smoked Fish, Smoke-Flavoured Fish and Smoke-Dried Fish (CODEX STAN 311-2013) at 2000 mg/kg for reduced oxygen packaged product only.
Note 21	As anhydrous calcium disodium ethylenediaminetetraacetate.
Note 22	For use in smoked fish paste only.
Note 23	As iron.
Note 24	As anhydrous sodium ferrocyanide.
Note 25	For use at GMP in full fat soy flour only.
Note 26	As steviol equivalents.
Note 27	As para-hydroxybenzoic acid.
Note 28	Except for use in wheat flour conforming to the standard for Wheat Flour (CODEX STAN 152-1985) at 2 000 mg/kg.
Note 29	For non-standardized food only.
Note 30	As residual NO ₃ ion.
Note 31	On the mash used basis.
Note 32	As residual NO ₂ ion.
Note 33	As phosphorus.
Note 34	On the anhydrous basis.

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Note	35	For use in cloudy juices only.
Note	36	On the residual level basis.
Note	37	Except for products conforming to the Standard for Chocolate and Chocolate Products (CODEX STAN 87-1981) at 2000 mg/kg.
Note	38	On the creaming mixture basis.
Note	39	On a total carotenoid basis.
Note	40	Pentasodium triphosphate (INS 451(i)) only, to enhance the effectiveness of benzoates and sorbates.
Note	41	For use in breading or batter coatings only.
Note	42	As sorbic acid.
Note	43	As tin.
Note	44	As residual SO ₂ .
Note	45	As tartaric acid.
Note	46	As thiodipropionic acid.
Note	47	On the dry egg yolk weight basis.
Note	48	For use in olives only.
Note	49	For use on citrus fruits only.
Note	50	For use in fish roe only.
Note	51	For use in herbs only.
Note	52	Excluding chocolate milk.
Note	53	For use in coatings only.
Note	54	For use in cocktail cherries and candied cherries only.
Note	55	Within the limits for sodium, calcium, and potassium specified in the Standard for Infant Formula and Formula for Special Dietary Purposes Intended for Infants (CODEX STAN 72-1981): singly or in combination with other sodium, calcium, and/or potassium salts.
Note	56	Excluding products where starch is present.
Note	57	GMP is 1 part benzoyl peroxide and not more than 6 parts of the subject additive by weight.
Note	58	As calcium.
Note	59	For use as a packaging gas only.
Note	60	The CO ₂ content in finished still wine shall not exceed 4000 mg/kg at 20o C.
Note	61	For use in minced fish only.
Note	62	As copper.
Note	63	For non-standardized food and for breaded or batter coatings in food conforming to the Standard for Quick Frozen Fish Sticks (Fish Fingers), Fish Portions and Fish Fillets - Breaded or in Batter (CODEX STAN 166-1989).
Note	64	For use in dry beans only.
Note	65	As a result of carryover from nutrient preparations.
Note	66	As formaldehyde.
Note	67	Except for use in liquid egg whites at 8 800 mg/kg as phosphorus, and in liquid whole eggs at 14 700 mg/kg as phosphorus.
Note	68	For use in flavoured and/or sweetened products only.
Note	69	For use as a carbonating agent only.
Note	70	As the acid.
Note	71	Calcium, potassium and sodium salts only.
Note	72	On the ready-to-eat basis.
Note	73	Excluding whole fish.
Note	74	Excluding liquid whey and whey products used as ingredients in infant formula.
Note	75	For use in milk powder for vending machines only.
Note	76	For use in potatoes only.
Note	77	For special nutritional uses only.
Note	78	Except for use in pickling and balsamic vinegars at 50 000 mg/kg.
Note	79	For use on nuts only.

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Note 80	Equivalent to 2 mg/dm ² surface application to a maximum depth of 5 mm.
Note 81	Equivalent to 1 mg/dm ² surface application to a maximum depth of 5 mm.
Note 82	Except for use in shrimp (<i>Crangon crangon</i> and <i>Crangon vulgaris</i>) at 6 000 mg/kg.
Note 83	L(+)-form only.
Note 84	For use in products for infants over 1 year of age only.
Note 85	Use level in sausage casings; residue in sausage prepared with such casings should not exceed 100 mg/kg.
Note 86	For use in whipped dessert toppings other than cream only.
Note 87	On the treatment level basis.
Note 88	As a result of carryover from the ingredient.
Note 89	For use in sandwich spreads only.
Note 90	For use in milk-sucrose mixtures used in the finished product only.
Note 91	Singly or in combination: Benzoates and sorbates.
Note 92	Excluding tomato-based sauces.
Note 93	Excluding natural wine produced from <i>Vitis vinifera</i> grapes.
Note 94	For use in loganiza (fresh, uncured sausage) only.
Note 95	For non-standardized foods: for use in surimi and fish roe products only.
Note 96	On the dried weight basis of the high intensity sweetener.
Note 97	On the final cocoa and chocolate product basis.
Note 98	For use in dust control only.
Note 99	For use in products conforming to the Standard for Bouillons and Consommés (CODEX STAN 117-1981) only.
Note 100	For use in crystalline products and sugar toppings only.
Note 101	When used in combination as emulsifiers: ammonium salts of phosphatidic acid (INS 442), polyglycerol esters of interesterified ricinoleic acid (INS 476), sorbitan monostearate (INS 491), sorbitan tristearate (INS 492), and polysorbates (polyoxyethylene (20) sorbitan monolaurate (INS 432), polyoxyethylene (20) sorbitan monooleate (INS 433), polyoxyethylene (20), sorbitan monostearate (INS 435) and polyoxyethylene (20) sorbitan tristearate (INS 436)), the total combined use level shall not exceed 15,000 mg/kg.
Note 102	For use in fat emulsions for baking purposes only.
Note 103	Except for use in special white wines at 400 mg/kg.
Note 104	Excluding canned pears (except for use in special holiday packs) and canned pineapples conforming to the Standard for Certain Canned Fruits (CODEX STAN 319-2015).
Note 105	Except for use in dried gourd strips (<i>Kampyo</i>) at 5 000 mg/kg.
Note 106	Except for use in Dijon mustard at 500 mg/kg.
Note 107	Except for use of sodium ferrocyanide (INS 535) and potassium ferrocyanide (INS 536) in food-grade dendritic salt at 29 mg/kg as anhydrous sodium ferrocyanide.
Note 108	For use on coffee beans only.
Note 109	Use level reported as 25 lbs/1 000 gal x (0.45 kg/lb) x (1 gal/3.75 L) x (1 L/kg) x (10E6 mg/kg) = 3 000 mg/kg
Note 110	For use in frozen French fried potatoes only.
Note 111	Except for use in dried glucose syrup used in the manufacture of sugar confectionery at 150 mg/kg and glucose syrup used in the manufacture of sugar confectionery at 400 mg/kg.
Note 112	For use in grated cheese only.
Note 113	As acesulfame potassium equivalents (the reported maximum level can be converted to an aspartame-acesulfame salt basis by dividing by 0.44). Combined use of aspartame-acesulfame salt with individual acesulfame potassium or aspartame should not exceed the individual maximum levels for acesulfame potassium or aspartame (the reported maximum level can be converted to aspartame equivalents by dividing by 0.68).
Note 114	Except for use in microsweets and breath freshening mints at 100 mg/kg.
Note 115	For use in pineapple juice only.
Note 116	For use in doughs only.

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Note	117	Except for use in loganiza (fresh, uncured sausage) at 1 000 mg/kg.
Note	118	Except for use in tocino (fresh, cured sausage) at 1 000 mg/kg.
Note	119	As aspartame equivalents (the reported maximum level can be converted to an aspartame-acesulfame salt basis by dividing by 0.64). Combined use of aspartame-acesulfame salt with individual aspartame or acesulfame potassium should not exceed the individual maximum levels for aspartame or acesulfame potassium (the reported maximum level can be converted to acesulfame potassium equivalents by multiplying by 0.68).
Note	120	Except for use in caviar substitutes at 2 500 mg/kg.
Note	121	Except for use in fermented fish products at 1 000 mg/kg.
Note	122	Subject to national legislation of the importing country.
Note	123	For use of sorbitan monostearate (INS 491), sorbitan tristearate (INS 492), sorbitan monolaurate (INS 493), sorbitan monooleate (INS 494), and sorbitan monopalmitate (INS 495) in combination up to a maximum level of 2000 mg/kg on the final cocoa and chocolate basis as emulsifiers in products conforming to the Standard for Cocoa Powders (Cocoas) and Dry Mixtures of Cocoa and Sugars (CODEX STAN 105-1981).
Note	124	For use in products containing less than 7% ethanol only.
Note	125	For use in a mixture with vegetable oil only, as a release agent for baking pans.
Note	126	For use in releasing dough in dividing or baking only.
Note	127	On the served to the consumer basis.
Note	128	Tartaric acid (INS 334) only.
Note	129	For use as an acidity regulator in grape juice only.
Note	130	Singly or in combination: butylated hydroxyanisole (INS 320), butylated hydroxytoluene (INS 321), tertiary butylated hydroquinone (INS 319), and propyl gallate (INS 310).
Note	131	For use as a flavour carrier only.
Note	132	Except for use in semi-frozen beverages at 130 mg/kg on a dried basis.
Note	133	Any combination of butylated hydroxyanisole (INS 320), butylated hydroxytoluene (INS 321), and propyl gallate (INS 310) at 200 mg/kg, provided that single use limits are not exceeded.
Note	134	Except for use in cereal-based puddings at 500 mg/kg.
Note	135	Except for use in dried apricots at 2 000 mg/kg, bleached raisins at 1 500 mg/kg, desiccated coconut at 200 mg/kg and coconut from which oil has been partially extracted at 50 mg/kg.
Note	136	For use to prevent browning of certain light coloured vegetables only.
Note	137	Except for use in frozen avocado at 300 mg/kg.
Note	138	For use in energy-reduced products only.
Note	139	For use in mollusks, crustaceans, and echinoderms only.
Note	140	Except for use in canned abalone (PAUA) at 1 000 mg/kg.
Note	141	Excluding canned pears and canned pineapples conforming to the Standard for Certain Canned Fruits (CODEX STAN 319-2015).
Note	142	Excluding coffee and tea.
Note	143	For use in fruit juice-based drinks and dry ginger ale only.
Note	144	For use in sweet and sour products only.
Note	145	For use in energy reduced or no added sugar products only.
Note	146	Beta-carotene (synthetic) (INS 160a(i)) only.
Note	147	Excluding whey powders for infant food.
Note	148	Except for use in microsweets and breath freshening mints at 10 000 mg/kg.
Note	149	Except for use in fish roe at 100 mg/kg.
Note	150	For use in soy-based formula only.
Note	151	Except for use in hydrolyzed protein and/or amino acid-based formula at 1 000 mg/kg.
Note	152	For use in frying only.
Note	153	For use in instant noodles only.
Note	154	For use in coconut milk only.

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Note 155	For use in frozen, sliced apples only.
Note 156	Except for use in microsweets and breath freshening mints at 2 500 mg/kg.
Note 157	Except for use in microsweets and breath freshening mints at 2 000 mg/kg.
Note 158	Except for use in microsweets and breath freshening mints at 1 000 mg/kg.
Note 159	For use in pancake syrup and maple syrup only.
Note 160	For use in ready-to-drink products and pre-mixes for ready-to-drink products only.
Note 161	Subject to national legislation of the importing country aimed, in particular, at consistency with Section 3.2 of the Preamble.
Note 162	For use in dehydrated products and salami-type products only.
Note 163	Except for use in microsweets and breath freshening mints at 3 000 mg/kg.
Note 164	Except for use in microsweets and breath freshening mints at 30 000 mg/kg.
Note 165	For use in products for special nutritional use only.
Note 166	For use in milk-based sandwich spreads only.
Note 167	For use in dehydrated products only.
Note 168	Singly or in combination: d-alpha-tocopherol (INS 307a), tocopherol concentrate, mixed (INS 307b) and dl-alpha-tocopherol (INS 307c).
Note 169	For use in fat-based sandwich spreads only.
Note 170	Excluding products conforming to the Standard for Fermented Milks (CODEX STAN 243-2003).
Note 171	Excluding anhydrous milkfat.
Note 172	Except for use in fruit sauces, fruit toppings, coconut cream, coconut milk and "fruit bars" at 50 mg/kg.
Note 173	Excluding instant noodles containing vegetables and eggs.
Note 174	Singly or in combination: sodium aluminosilicate (INS 554), calcium aluminium silicate (INS 556), and aluminium silicate (INS 559).
Note 175	Except for use in jelly-type fruit-based desserts at 200 mg/kg.
Note 176	For use in canned liquid coffee only.
Note 177	For non-standardized food and for minced fish flesh and breaded or batter coatings conforming to the Standard for Quick Frozen Fish Sticks (Fish Fingers), Fish Portions and Fish Fillets -Breaded or in Batter (CODEX STAN 166-1989).
Note 178	As carminic acid.
Note 179	For use in restoring the natural colour lost in processing only.
Note 180	Singly or in combination: butylated hydroxyanisole (BHA, INS 320) and butylated hydroxytoluene (BHT, INS 321).
Note 181	As anthocyanin.
Note 182	Excluding coconut milk.
Note 183	For use in surface decoration only.
Note 184	For use in nutrient coated rice grain premixes only.
Note 185	As norbixin.
Note 186	For use in flours with additives only.
Note 187	Ascorbyl palmitate (INS 304) only.
Note 188	If used in combination with aspartame-acesulfame salt (INS 962), the combined maximum use level, expressed as acesulfame potassium, should not exceed this level.
Note 189	Excluding rolled oats.
Note 190	Except for use in fermented milk drinks at 500 mg/kg.
Note 191	If used in combination with aspartame-acesulfame salt (INS 962), the combined maximum use level, expressed as aspartame, should not exceed this level.
Note 192	For use in liquid products only.
Note 193	For use in crustacean and fish pastes only.
Note 194	For use in instant noodles conforming to the Standard for Instant Noodles (CODEX STAN 249-2006) only.
Note 195	Singly or in combination: butylated hydroxyanisole (BHA, INS 320), butylated hydroxytoluene (BHT, INS 321) and tertiary butylhydroquinone (TBHQ, INS 319).

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Note	196	Singly or in combination: butylated hydroxyanisole (BHA, INS 320), butylated hydroxytoluene (BHT, INS 321) and propyl gallate (INS 310).
Note	197	Singly or in combination: butylated hydroxytoluene (BHT, INS 321) and propyl gallate (INS 310).
Note	198	For use in solid products (e.g., energy, meal replacement or fortified bars) only.
Note	199	Except for use in microsweets and breath freshening mints at 6 000 mg/kg as steviol equivalents.
Note	200	Except for use in Japanese style 'lachs ham' of pork loin (cured and non-heat-treated) at 120 mg/kg as steviol equivalents
Note	201	For use in flavoured products only.
Note	202	For use in brine used in the production of sausage only.
Note	203	For use in chewable supplements only.
Note	204	Except for use in longan and lichee at 50 mg/kg.
Note	205	Except for use to prevent browning of certain light colored vegetables at 50 mg/kg.
Note	206	Except for use as a bleaching agent in products conforming to the Standard for Aqueous Coconut Products (CODEX STAN 240-2003) at 30 mg/kg.
Note	207	Except for use in soybean sauce intended for further processing at 50 000 mg/kg.
Note	208	For use in dried and dehydrated products only.
Note	209	Excluding products conforming to the Standard for Blend of Skimmed Milk and Vegetable Fat in Powdered Form (CODEX STAN 251-2006).
Note	210	For non-standardized food and for use as a humectant in products conforming to the Standard for Quick Frozen Fish Sticks (Fish Fingers), Fish Portions and Fish Fillets - Breaded or in Batter (CODEX STAN 166-1989); and for use as a thickener in breading or batter coatings for products conforming to the Standard for Quick Frozen Fish Sticks (Fish Fingers), Fish Portions and Fish Fillets - Breaded or in Batter (CODEX STAN 166-1989).
Note	211	For use in noodles only.
Note	212	Except for use in products conforming to the Standard for Bouillon and Consommés (CODEX STAN 117-1981) at 3 000 mg/kg.
Note	213	For use in liquid products containing high intensity sweeteners only.
Note	214	Excluding products conforming to the Standard for Dairy Fat Spreads (CODEX STAN 253-2006).
Note	215	Excluding products conforming to the Standard for Fat Spreads and Blended Spreads (CODEX STAN 256-2007).
Note	216	For use in maize-based products only.
Note	217	Except for use in toppings at 300 mg/kg.
Note	218	Only sulfites can be used as preservatives and antioxidants in the products covered by the Standard for Desiccated Coconut (CODEX STAN 177-1991).
Note	219	Except for use in non-alcoholic aniseed-based, coconut-based, and almond-based drinks at 5 000 mg/kg.
Note	220	For use in flavoured products heat treated after fermentation only.
Note	221	For use in potato dough and pre-fried potato slices only.
Note	222	For use in collagen-based casings with a water activity greater than 0.6 only.
Note	223	Except for use in products containing added fruits, vegetables, or meats at 3 000 mg/kg.
Note	224	Excluding aromatized beer.
Note	225	Except for use in self-raising flour at 12,000 mg/kg.
Note	226	Except for use as a meat tenderizer at 35,000 mg/kg.
Note	227	For use in sterilized and UHT treated milks only.
Note	228	Except for use to stabilize higher protein liquid whey used for further processing into whey protein concentrates at 1 320 mg/kg.
Note	229	For use as a flour treatment agent, raising agent or leavening agent only.
Note	230	For use as an acidity regulator only.
Note	231	For use in flavoured fermented milks and flavoured fermented milks heat treated after fermentation only.

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Note	232	For use in vegetable fats conforming to the Standard for Edible Fats and Oils Not Covered by Individual Standards (CODEX STAN 19-1981) only.
Note	233	As nisin.
Note	234	For use as a stabilizer or thickener only.
Note	235	For use in reconstituted and recombined products only.
Note	236	Excluding products conforming to the Standard for Cream and Prepared Creams (reconstituted cream, recombined cream, prepackaged liquid cream) (CODEX STAN 288-1976).
Note	237	Excluding products conforming to the Standard for Processed Cereal-Based Foods for Infants and Young Children (CODEX STAN 74-1981).
Note	238	Except for use in products corresponding to the Standard for Processed Cereal-Based Foods for Infants and Young Children (CODEX STAN 74-1981) at GMP.
Note	239	Excluding products conforming to the Standard for Canned Baby Foods (CODEX STAN 73-1981).
Note	240	The use level is within the limit for sodium listed in the Standard for Canned Baby Foods (CODEX STAN 73-1981).
Note	241	For use in surimi products only.
Note	242	For use as an antioxidant only.
Note	243	For use in products conforming to the Standard for Processed Cereal-based Foods for Infants and Young Children (CODEX STAN 74-1981) only, as a raising agent.
Note	244	For use in biscuit dough only.
Note	245	For use in pickled vegetables only.
Note	246	Singly or in combination: aluminium ammonium sulfate (INS 523) and sodium aluminium phosphates (acidic and basic; (INS 541(i),(ii))).
Note	247	For use in kuzukiri and harusame only.
Note	248	For use as a raising agent only.
Note	249	For use as a raising agent in mixes for steamed breads and buns only.
Note	250	For use in boiled mollusks and tsukudani only.
Note	251	For use in processed American cheese only.
Note	252	For use in self-rising flour and self-rising corn meal only.
Note	253	For non-standardized foods and for use in minced fish flesh only in products conforming to the Standard for Quick Frozen Fish Sticks (Fish Fingers), Fish Portions and Fish Fillets - Breaded or in Batter (CODEX STAN 166-1989).
Note	254	For use in salt applied to dry salted cheeses during manufacturing only.
Note	255	Except for use in seasonings applied to foods in food category 15.1 at 1 700 mg/kg.
Note	256	For use in noodles, gluten-free pasta and pasta intended for hypoproteic diets only.
Note	257	Except for use in breading or batter coatings in products conforming to the Standard for Quick Frozen Fish Sticks (Fish Fingers), Fish Portions and Fish Fillets – Breaded or in Batter (CODEX STAN 166-1989) only at 25 mg/kg as bixin.
Note	258	Excluding maple syrup.
Note	259	Singly or in combination: sodium aluminosilicate (INS 554) and calcium aluminium silicate (INS 556).
Note	260	For use in powdered beverage whiteners only.
Note	261	For use in heat-treated buttermilk only.
Note	262	For use in edible fungi and fungus products only.
Note	263	Except for use in pickled fungi at 20 000 mg/kg.
Note	264	Except for use in sterilized fungi at 5 000 mg/kg: citric acid (INS 330) and lactic acid (INS 270), singly or in combination.
Note	265	For use in quick frozen French fried potatoes only, as a sequestrant.
Note	266	Excluding canned mangoes and canned pears conforming to the Standard for Certain Canned Fruits (CODEX STAN 319-2015).
Note	267	Excluding products conforming to the Standard for Certain Canned Fruits (CODEX STAN 319-2015) except for use in special holiday packs for canned pears conforming to the standard.

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Note	268	Singly or in combination: INS 471, 472a, 472b and 472c in products conforming to the Standard for Processed Cereal-Based Foods for Infants and Young Children (CODEX STAN 74-1981).
Note	269	Singly or in combination with other modified starches used as thickeners in products conforming to the Standard for Processed Cereal-Based Foods for Infants and Young Children (CODEX STAN 74-1981).
Note	270	For use at 60 000 mg/kg, singly or in combination with other starch thickeners In products conforming to the Standard for Canned Baby Foods (CODEX STAN 73-1981).
Note	271	For use in products conforming to the Standard for Canned Baby Foods (CODEX STAN 73-1981).
Note	272	Singly or in combination: INS 410, 412, 414, 415 and 440 at 20 000 mg/kg in gluten-free cereal based foods, and 10 000 mg/kg in other products conforming to the Standard for Processed Cereal-Based Foods for Infants and Young Children (CODEX STAN 74-1981).
Note	273	Singly or in combination: INS 410, 412, 414, 415 and 440 except for use at 20 000 mg/kg in gluten-free cereal based foods in products conforming to the Standard for Processed Cereal-Based Foods for Infants and Young Children (CODEX STAN 74-1981).
Note	274	For use at 15 000 mg/kg in products conforming to the Standard for Processed Cereal-Based Foods for Infants and Young Children (CODEX STAN 74-1981).
Note	275	For use at 1 500 mg/kg In products conforming to the Standard for Canned Baby Foods (CODEX STAN 73-1981).
Note	276	Singly or in combination with other modified starches used as thickeners In products conforming to the Standard for Canned Baby Foods (CODEX STAN 73-1981).
Note	277	For use in flavoured vinegar and in rice vinegar only.
Note	278	For use in whipped cream and cream packed under pressure only.
Note	279	Except for products conforming to the standard for Edible Fungi and Fungus Products (CODEX STAN 38-1981).
Note	280	For use in pickled radish only.
Note	281	For use in fresh minced meat which contains other ingredients apart from comminuted meat only.
Note	282	Only non-amidated pectins may be used in the Standard for Canned Baby Foods (CODEX STAN 73-1981).
Note	283	For use in canned fruit-based baby foods conforming to the Standard for Canned Baby Foods (CODEX STAN 73-1981) only.
Note	284	Singly or in combination: INS 1412, 1413, 1414 and 1440 in products conforming to the Standard for Infant Formula and Formulas for Special Medical Purposes Intended for Infants (CODEX STAN 72-1981).
Note	285	Singly or in combination: INS 1412, 1413, 1414 and 1422 in products conforming to the Standard for Follow-Up Formula (CODEX STAN 156-1987).
Note	286	For use in products conforming to the Standard for Luncheon Meat (CODEX STAN 89-1981) and the Standard for Cooked Cured Chopped Meat (CODEX STAN 98-1981).
Note	287	Except for use in products conforming to the Standard for Corned Beef (CODEX STAN 88-1981) at 30 mg/kg as residual NO ₂ ion.
Note	288	For use in products conforming to the Standard for Cooked Cured Ham (CODEX STAN 96-1981) and Cooked Cured Pork Shoulder (CODEX STAN 97-1981).

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Note	289	For use of sodium dihydrogen phosphate (INS 339(i)), disodium hydrogen phosphate (INS 339(ii)), trisodium phosphate (INS 339(iii)), potassium dihydrogen phosphate (INS 340(i)), dipotassium hydrogen phosphate (INS 340(ii)), tripotassium phosphate (INS 340(iii)), calcium dihydrogen phosphate (INS 341(i)), calcium hydrogen phosphate (INS 341(ii)), tricalcium phosphate (INS 341(iii)), disodium diphosphate (INS 450(i)), trisodium diphosphate (INS 450(ii)), tetrasodium diphosphate (INS 450(iii)), tetrapotassium diphosphate (INS 450(v)), calcium dihydrogen diphosphate (INS 450(vii)), pentasodium triphosphate (INS 451(i)), pentapotassium triphosphate (INS 451(ii)), sodium polyphosphate (INS 452(i)), potassium polyphosphate (INS 452(ii)), sodium calcium polyphosphate (INS 452(iii)), calcium polyphosphate (INS 452(iv)), ammonium polyphosphate (INS 452(v)), and bone phosphate (INS 542) as humectants in products conforming to the Standard for Cooked Cured Ham (CODEX STAN 96-1981) and Cooked Cured Pork Shoulder (CODEX STAN 97-1981). The total amount of phosphates (naturally present and added) shall not exceed 3 520 mg/kg as phosphorus.
Note	290	For use in products conforming to the Standard for Luncheon Meat (CODEX STAN 89-1981) and Cooked Cured Chopped Meat (CODEX STAN 98-1981) at 15 mg/kg to replace loss of colour in product with binders only.
Note	291	Except for use of beta-apo-8'-carotenal (INS 160e) and beta-apo-8'-carotenoic acid, methyl or ethyl ester (INS 160f) at 35 mg/kg.
Note	292	Except for use in hydrolyzed protein and/or amino acid-based formula at 25 000 mg/kg.
Note	293	On the saponin basis.
Note	294	Except for use in liquid products at 600 mg/kg as steviol equivalents.
Note	295	For use in products conforming to the Standard for Canned Baby Foods (CODEX STAN 73-1981) only, as an acidity regulator.
Note	296	Except for use in perilla in brine at 780 mg/kg.
Note	297	The level in the ready-to-eat food shall not exceed 200 mg/kg on the anhydrous basis.
Note	298	For use only in products conforming to the Standard for Provolone (CXS 272-1968).
Note	299	For use in non-standardized food; and in products conforming to the Standard for Quick Frozen Fish Sticks (Fish Fingers), Fish Portions and Fish Fillets - Breaded or in Batter (CODEX STAN 166-1989): the following phosphates for use as humectants at 2200 mg/kg as phosphorous, INS 339(i), 339(ii), 339(iii), 340(i), 340(ii), 340(iii), 341(i), 341(ii), 341(iii), 450(i), 450(ii), 450(iii), 450(v), 450(vii), 451(i), 451(ii), 452(i), 452(ii), 452(iii), 452(iv), 452(v), and 542; and the following phosphates for use as raising agents in bread and batter coatings only at 440 mg/kg as phosphorous, INS 339(i), 340(iii), 341(i), 341(ii), 341(iii), 450(i), 450(ii), 450(iii), 450(v), 450(vi), 450(vii), 450(ix), 452(i), 452(ii), 452(iii) and 452(iv).
Note	300	For use in salted squid only.
Note	301	Interim maximum level until CCFA53.
Note	302	For use of sodium dihydrogen phosphate (INS 339(i)), disodium hydrogen phosphate (INS 339(ii)), trisodium phosphate (INS 339(iii)), potassium dihydrogen phosphate (INS 340(i)), dipotassium hydrogen phosphate (INS 340(ii)), tripotassium phosphate (INS 340(iii)), calcium dihydrogen phosphate (341(i)), calcium hydrogen phosphate (INS 341(ii)), tricalcium phosphate (INS 341(iii)), disodium diphosphate (INS 450(i)), trisodium diphosphate (INS 450(ii)), tetrasodium diphosphate (INS 450(iii)), tetrapotassium diphosphate (INS 450(v)), calcium dihydrogen diphosphate (INS 450(vii)), pentasodium triphosphate (INS 451(i)), pentapotassium triphosphate (INS 451(ii)), sodium polyphosphate (INS 452(i)), potassium polyphosphate (INS 452(ii)), sodium calcium polyphosphate (INS 452(iii)), calcium polyphosphate (INS 452(iv)), ammonium polyphosphate (INS 452(v)), and bone phosphate (INS 542) as humectants in products conforming to the Standard for Luncheon Meat (CODEX STAN 89-1981) and Cooked Cured Chopped Meat (CODEX STAN 98-1981) at 1320 mg/kg as phosphorous. The total amount of phosphates (naturally present and added) shall not exceed 3520 mg/kg as phosphorous.
Note	303	Excluding products (other than white chocolate) conforming to the Standard for Chocolate and Chocolate Products (CODEX STAN 87-1981).

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Note	304	For use only in breaded or batter coatings in products conforming to the Standard for Quick Frozen Fish Sticks (Fish Fingers), Fish Portions and Fish Fillets – Breaded or in Batter (CODEX STAN 166- 1989), singly or in combination: carotenoids (beta-carotenes, synthetic (INS 160a(i)), beta-carotenes, <i>Blakeslea trispora</i> (INS 160a(iii)), carotenal, beta-apo-8' (INS 160e), carotenoic acid, ethyl ester, betaapo-8'- (INS 160f)) and beta-carotenes, vegetable (INS 160a(ii)).
Note	305	Except for use in breeding or batter coatings in products conforming to the Standard for Quick Frozen Fish Sticks (Fish Fingers), Fish Portions and Fish Fillets – Breaded or in Batter (CODEX STAN 166-1989) only at 25 mg/kg as norbixin.
Note	306	Excluding products conforming to the Standard for Dried Shark Fins (CODEX STAN 189-1993), the Standard for Crackers from Marine and Freshwater Fish, Crustaceans and Molluscan Shellfish (CODEX STAN 222-2001), the Standard for Boiled Dried Salted Anchovies (CODEX STAN 236-2003), the Standard for Live Abalone and for Raw Fresh Chilled or Frozen Abalone for Direct Consumption or for Further Processing (CODEX STAN 312-2013), and the Standard for Fresh and Quick Frozen Raw Scallop Products (CODEX STAN 315-2014).
Note	307	Excluding raw squid.
Note	308	For use in raw mollusks only.
Note	309	For use in breaded or battered foods applied to non-standardized foods only.
Note	310	Except for use in products conforming to the Standard for Canned Shrimps or Prawns (CODEX STAN 37-1981) and the Standard for Canned Crab Meat (CODEX STAN 90-1981) at 250 mg/kg.
Note	311	For use in terrine only.
Note	312	For use in tsukudani and surimi products only.
Note	313	For use in products conforming to the Standard for Crackers from Marine and Freshwater Fish, Crustaceans and Molluscan Shellfish (CODEX STAN 222-2001).
Note	314	For use in yeast extracts.
Note	315	Singly or in combination: ascorbic acid (INS 300), sodium ascorbate (INS 301), calcium ascorbate (INS 302), and ascorbyl palmitate (INS 304).
Note	316	Within the limit for sodium specified in the Codex Standard for Follow-up Formulae (CODEX STAN 156-1987): singly or in combination with other sodium containing additives.
Note	317	As ascorbic acid.
Note	318	In dry cereal only.
Note	319	Within the limit for sodium listed in the Codex Standard for Canned Baby Food (CODEX STAN 73-1981) for foods corresponding to that standard : singly or in combination with other sodium containing additives.
Note	320	Within the limit for sodium listed in the Codex Standard for Processed Cereal-based Foods for Infants and Young Children (CODEX STAN 74-1981) for foods corresponding to that standard : singly or in combination with other sodium containing additives.
Note	321	For use in powdered mixes only.
Note	322	For use in cooked products boiled with soy sauce only.
Note	323	For use as firming agent.
Note	324	For use in aloe vera only.
Note	325	For general use in surimi products.
Note	326	For use in fresh meat, poultry and game products only.
Note	327	For use in fish products cooked in soy sauce.
Note	328	Singly or in combination with other thickeners.
Note	329	Use level in milk and soy based products only.
Note	330	Except for use in canned products.
Note	331	For non-standardized foods: for use in minced fish, shrimps and prawns only.
Note	332	For general use as a glazing agent.
Note	333	In foods conforming to the Standard for Smoked Fish, Smoke-Flavoured Fish and SmokeDried Fish (CODEX STAN 311-2013), for use in reduced oxygen packaged products in smoked fish and smoke-flavoured fish products only.

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Note	334	For salted fish with a salt content of greater than or equal to 18 percent during processing.
Note	335	For use in products containing vegetable protein only.
Note	336	For use in Chinese plum juices only.
Note	337	For use in products conforming to the Codex Standard for Bouillons and Consommés (CODEX STAN 117-1981) at 50 mg/kg.
Note	338	For use in products conforming to the Codex Standard for Bouillons and Consommés (CODEX STAN 117-1981) singly or in combination: sorbic acid (INS 200), potassium sorbate (INS 202), calcium sorbate (INS 203), benzoic acid (INS 210), sodium benzoate (INS 211), potassium benzoate (INS 212), and calcium benzoate (INS 213) at 500 mg/kg as sorbic acid (INS 200-203) or as benzoic acid (INS 210-213).
Note	339	Excluding use for canned bouillons and consommés.
Note	340	Except for products not conforming to the Codex Standard for Bouillons and Consommés (CODEX STAN 117-1981) at 100 mg/kg.
Note	341	For use in products conforming to the Codex Standard for Bouillons and Consommés (CODEX STAN 117-1981) singly or in combination: carotenes, beta-, vegetable (INS 160a(ii)), carotenal, beta-apo-8'- (INS 160e) and carotenoic acid, ethyl ester, beta-apo-8'- (INS 160f) at 50 mg/kg.
Note	342	For use of chlorophylls, copper complexes (INS 141(i)) only in products conforming to the Codex Standard for Bouillons and Consommés (CODEX STAN 117-1981).
Note	343	For use in products conforming to the Codex Standard for Bouillons and Consommés (CODEX STAN 117-1981): sodium dihydrogen phosphate (INS 339(i)), disodium hydrogen phosphate (INS 339(ii)), trisodium phosphate (INS 339(iii)), potassium dihydrogen phosphate (INS 340(i)), dipotassium hydrogen phosphate (INS 340(ii)), tripotassium phosphate (INS 340(iii)), disodium diphosphate (INS 450(i)), trisodium diphosphate (INS 450(ii)), tetrasodium diphosphate (INS 450(iii)), tetrapotassium diphosphate (INS 450(v)), pentasodium triphosphate (INS 451(i)), pentapotassium triphosphate (INS 451(ii)), sodium polyphosphate (INS 452(i)), and potassium polyphosphate (INS 452(ii)) as acidity regulators at 440 mg/kg as phosphorus; calcium dihydrogen phosphate (INS 341(i)), calcium hydrogen phosphate (INS 341(ii)), and tricalcium phosphate (INS 341(iii)) as anticaking agents at 800 mg/kg as phosphorus on the dry matter basis in dehydrated products only; and dicalcium diphosphate (INS 450(vi)) and calcium polyphosphate (INS 452(iv)) as emulsifiers, stabilizers, and thickeners at 1320 mg/kg as phosphorus.
Note	344	For use of riboflavin, synthetic (INS 101(i)) only in products conforming to the Codex Standard for Bouillons and Consommés (CODEX STAN 117-1981).
Note	345	For use in curried products only
Note	346	For use in products conforming to the Codex Standard for Bouillons and Consommés (CODEX STAN 117-1981), singly or in combination: d-alpha-tocopherol (INS 307a), tocopherol concentrate, mixed (INS 307b), and dl-alpha-tocopherol (INS 307c) at 50 mg/kg.
Note	347	Excluding plain products.
Note	348	For general use in dried seaweed only.
Note	349	For use at 7,000 mg/kg in bakery cream fillings only.
Note	350	For use at 10,000 mg/kg in cream powder analogues only.
Note	351	Only for use in products conforming to the Standard for Cream Cheese (CODEX STAN 275-1973).
Note	352	Except for use at 6,000 mg/kg in products with > 20% fat content.
Note	353	On dry basis.
Note	354	For use at 2,000 mg/kg in flavoured products conforming to the Standard for Fermented Milks (CODEX STAN 243-2003) only.
Note	355	For use at 10,000 mg/kg in flavoured products conforming to the Standard for Fermented Milks (CODEX STAN 243-2003) only.
Note	356	Excluding virgin or cold pressed oils.
Note	357	Except for use in refined olive oil, olive oil, refined olive-pomace oil and olive-pomace oil at 200 mg/kg to restore natural tocopherol lost in production.

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Note	358	For use in products in a syrup or juice only.
Note	359	Excluding dairy fat spreads with $\geq 70\%$ milk fat content.
Note	360	In dairy fat spreads limited to products with $< 70\%$ fat content or baking purposes only.
Note	361	For use at 5,000 mg/kg as tartaric acid in products conforming to the Standard for Dairy Fat Spreads (CODEX STAN 253-2006).
Note	362	Excluding plain products conforming to the Standard for Fermented Milks (CODEX STAN 243-2003).
Note	363	For use at 50,000 mg/kg for emulsified oils used in the production of noodles or bakery products.
Note	364	Singly or in combination.
Note	365	On a casings basis.
Note	366	10,000 mg/kg in imitation chocolate with $>5\%$ water content.
Note	367	For use at 10,000 mg/kg in candy containing not less than 10% oil.
Note	368	For use at 10,000 mg/kg in whipped decorations.
Note	369	For use in granola-type breakfast cereals only.
Note	370	For use in noodles, skin or crusts for spring rolls, wontons, and shou mai only.
Note	371	For use at 10,000 mg/kg in boiled noodles only.
Note	372	For use in rolls only.
Note	373	For use in sausage only.
Note	374	For use in cooked frozen meat products only.
Note	375	Excluding products conforming to the Standard for Chocolate and Chocolate Products (CODEX STAN 87-1981) except for white chocolate, where ascorbyl palmitate (INS 304) may be used only as an antioxidant at 200 mg/kg calculated on a fat content basis.
Note	376	For use in hydrolyzed protein and/or amino acid based infant formula only.
Note	377	For products conforming to the Standard for Luncheon Meat (CODEX STAN 89-1981), Standard for Cooked Cured Chopped Meat (CODEX STAN 98-1981), and Standard for Corned Beef (CODEX STAN 88-1981) use is limited to ready-to-eat products which require refrigeration.
Note	378	For oils and fats for deep frying.
Note	379	For use in hydrolyzed protein and/or amino acid based liquid infant formula only.
Note	380	Except for use in powdered infant formula at 7,500 mg/kg.
Note	381	As consumed.
Note	382	For use only in smoked fish and smoke-flavoured fish products conforming to the Standard for Smoked Fish, Smoked-flavoured fish, and Smoke-dried fish (CODEX STAN 311-2013).
Note	383	For use in gelatin powder only.
Note	384	On a gelatin powder basis.
Note	385	As a humectant for wetting of fumaric acid (INS 297).
Note	386	Except for use in the Standard for Pickled Cucumbers (Cucumber Pickles) (CODEX STAN 115-1981) at 500 mg/kg, singly or in combination with other emulsifiers.
Note	387	Except for use at 20000 mg/kg in powdered sugar for fine bakery wares.
Note	388	Excluding bread prepared solely with wheat flour, water, yeast or leaven, and salt.
Note	389	Except for use at 500 mg/kg in products containing nut paste
Note	390	For use as an antioxidant for non-standardized food and for raw chilled shucked mollusks conforming to the Standard for Live and Raw Bivalve Molluscs (CODEX STAN 292-2008).
Note	391	For non-standardized food and for minced fish flesh only in products conforming to the Standard for Quick Frozen Blocks of Fish Fillets, Minced Fish Flesh and Mixtures of Fillets and Minced Fish Flesh (CODEX STAN 165-1989).
Note	392	For non-standardized food and for products conforming to the Standard for Live and Raw Bivalve Molluscs (CODEX STAN 292-2008): for use as an antioxidant for raw frozen molluscs.

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Note	393	For use on Quick Frozen Scallop Meat and Quick Frozen Roe-on Scallop Meat Processed with phosphates conforming to the Standard for Fresh and Quick Frozen Raw Scallop Products (CODEX STAN 315-2014) as follows: the following phosphates at 2200 mg/kg as phosphorus for use as acidity regulators: INS 338, 339(i,ii,iii), 340(i,ii,iii), 341(i,ii,iii), 342(i,ii), 343(i,ii,iii), 450(i,ii,iii,v,vi,vii,ix), 451(i,ii), 452(i,ii,iii,iv,v); the following for use as humectants: INS 339(i,ii,iii), 340(i,ii,iii), 341(i,ii,iii), 450(i,ii,iii,v,vii), 451(i,ii), INS 452(i,ii,iii,iv,v), and 542; the following for use as sequestrants: INS 338, 339(i,ii,iii), 340(i,ii,iii), 341(i), 450(i,ii,iii,v,vi,vii), 451(i,ii), 452(i,ii,iii,iv,v); and the following for use as stabilizers: INS 339(i,ii,ii), 340(i,ii,iii), 341(i,ii,iii), 342(i,ii), 343(i,ii,iii), I450(i), INS 450(ii), INS 450(iii,v,vi,vii,ix), 451(i,ii), 452(i,ii,iii,iv,v) and 542.
Note	394	For use in non-standardized food; and in products conforming to the Standard for Quick Frozen Shrimps or Prawns (CODEX STAN 92-1981); Quick Frozen Lobsters (CODEX STAN 95-1981); Quick Frozen Blocks of Fish Fillet, Minced Fish Flesh and Mixtures of Fillets and Minced Fish Flesh (CODEX STAN 165-1989); and Quick Frozen Fish Fillets (CODEX STAN 190-1995) as humectants at 2200 mg/kg as phosphorous: INS 339(i), INS 339(ii), INS 339(iii), INS 340(i), INS 340(ii), INS 340(iii), INS 341(i), INS 341(ii), INS 450(iii), INS 450(v), INS 450(vii), INS 451(i), INS 451(ii), INS 452(i), INS 452(ii), INS 452(iii), INS 452(iv), INS 452(v), and INS 542.
Note	395	For use in heat-treated products conforming to the Standard for Quick Frozen Shrimps and Prawns (CODEX STAN 92-1981).
Note	396	For products conforming to the Standard for Cooked Cured Ham (CODEX STAN 96-1981) and the Standard for Cooked Cured Pork Shoulder (CODEX STAN 97-1981), use is limited to ready-to-eat products which require refrigeration.
Note	397	For use at 1000 mg/kg in non-UHT and non-sterilised buttermilk.
Note	398	For use in products conforming to the Standard for Fermented Milk (CODEX STAN 243- 2003) at 1000 mg/kg.
Note	399	For use in products conforming to the Standard for Fermented Milk (CODEX STAN 243- 2003) at 10,000 mg/kg.
Note	400	For use in products conforming to the Standard for Fermented Milk (CODEX STAN 243- 2003) at 150 mg/kg.
Note	401	For use in products conforming to the Standard for Fermented Milk (CODEX STAN 243- 2003) at 600 mg/kg.
Note	402	For use in products conforming to the Standard for Fermented Milk (CODEX STAN 243- 2003) at 100 mg/kg.
Note	403	Excluding fermented milks and drinks not heat-treated after fermentation.
Note	404	For use in energy-reduced products or products with no added sugar conforming to the Standard for Fermented Milk (CODEX STAN 243-2003) at 400 mg/kg.
Note	405	For use in energy-reduced products or products with no added sugar conforming to the Standard for Fermented Milk (CODEX STAN 243-2003) at 1000 mg/kg.
Note	406	For use in energy-reduced products or products with no added sugar conforming to the Standard for Fermented Milk (CODEX STAN 243-2003) at 100 mg/kg.
Note	407	Excluding all fluid milks that are not mineral or vitamin fortified.
Note	408	For use in flavoured and/or sweetened milk powder analogues only.
Note	409	For use only in products intended for further processing or special dietary uses, reduced or low sugar content, or where sweetening properties have been replaced wholly or partially by food additive sweeteners.
Note	410	Excluding lactose reduced milks.
Note	411	Except for use in lactose reduced milks at 500 mg/kg.
Note	412	For use in fish sausage only.
Note	413	INS 452(i-v) only in products conforming to the Standard for Crackers From Marine and Freshwater Fish, crustacean and Molluscan Shellfish (CODEX STAN 222-2001).
Note	414	For use in marinated products only.
Note	415	For use in pickled products only.
Note	416	Tocopherol concentrate, mixed (INS 307b) only.
Note	417	For use in capsule and tablet form.
Note	418	Except for use at 6,000 mg/kg, singly or in combination, on the basis of fish oils.

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Note	419	For use only in ready-to-eat products that require refrigeration.
Note	420	Except for use at 700 mg/kg in smoked molluscs and salted molluscs.
Note	421	For use in pastes and condiment products containing plant-derived oils only.
Note	422	For use in curry roux only.
Note	423	For use in dashi and furikake only.
Note	424	For use as a glazing agent.
Note	425	For use in malt liquor only.
Note	426	Except for use in concentrated marinades applied to food at 20,000 mg/kg.
Note	427	Except for use in concentrated marinades applied to food at 10,000 mg/kg.
Note	428	As residue in biscuits and rusks.
Note	429	Except for use in canned coffee with milk at 2000 mg/kg.
Note	430	Only for use in emulsified liquors.
Note	431	Excluding use in whiskey.
Note	432	For use in doughs used in cereal based savory snacks only.
Note	433	For use in rice crackers and potato snacks only.
Note	434	Carry-over from use as an antioxidant in flavours, colours, juice ingredients and nutrient preparations.
Note	435	For use of tartrazine (INS 102), sunset yellow FCF (INS 110), amaranth (INS 123) and ponceau 4R (cochineal red A) (INS 124) singly or in combination up to a maximum level of 30 mg/kg in the final product as colours only for the purpose of restoring colour lost in processing for products conforming to the Standard for Canned Shrimps or Prawns (CODEX STAN 37-1991).
Note	436	For use as acidity regulators only: in products conforming to the Standard for Canned Shrimps or Prawns (CODEX STAN 37-1991) only Phosphoric Acid (INS 338) is permitted up to a maximum of 540 mg/kg as phosphorus; in products conforming to the Standard for Canned Tuna and Bonito (CODEX STAN 70-1981) only Disodium diphosphate (INS 450(i)) is permitted up to a maximum of 4,400 mg/kg as phosphorus (including natural phosphates); in products conforming to the Standard for Canned Crab Meat (CODEX STAN 90-1981) only Phosphoric Acid (INS 338) and Disodium diphosphate (INS 450(i)) are permitted up to a maximum of 4,400 mg/kg, singly or in combination, as phosphorus (including natural phosphates).
Note	437	Excluding use in smoke-dried fish conforming to the Standard for Smoked Fish, SmokeFlavoured Fish and Smoke-Dried Fish (CODEX STAN 311-2013).
Note	438	For use as emulsifier or stabilizer only.
Note	439	For UHT milk from non-bovine species only.
Note	440	Except for use at 200 mg/kg in candy with hard panned sugar coating.
Note	441	Except for use at 300 mg/kg in candies with red fruit flavour.
Note	442	Except for use at 300 mg/kg in lemon flavored candies.
Note	443	Except for use at 200 mg/kg in milk toffees.
Note	444	Except for use at 700 mg/kg in yellow fruit or spice flavoured chewing gum.
Note	445	Except for use at 300 mg/kg in lemon and citrus flavoured products.
Note	446	Except for use at 100 mg/kg in sugar-based icings.
Note	447	Except for use at 500 mg/kg in fat based or aerated products.
Note	448	For use in UHT milk from bovine species to compensate for citrate or calcium content to prevent sedimentation as a result of climatic conditions only.
Note	449	Excluding plain fermented milks based on fermented milks not heat treated after fermentation conforming to CXS 243-2003.
Note	450	Except for use at 20,000 mg/kg in fruity confection products.
Note	451	On the dry mixture basis.
Note	452	Except for use at 5200 mg/kg in dried egg whites used for further processing only.
Note	453	For use as a glaze where such surface treatment is allowed for application to the surface of fresh fruit.
Note	454	For use in waxes, coatings or glazes where these surface treatments are allowed for application to the surface of fresh fruit.

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Note	455	For use as a glaze where such surface treatment is allowed for application to the surface of fresh vegetables, seaweeds or nuts and seeds.
Note	456	For use in waxes, coatings or glazes where these surface treatments are allowed for the application to the surface of fresh vegetables, seaweeds, or nuts and seeds.
Note	457	Except for use in products conforming to the Standards for Cheddar (CXS 263-1966), Danbo (CXS 264-1966), Edam (CXS 265-1966), Gouda (CXS 266-1966), Havarti (CXS 267-1966), Samsø (CXS 268-1966), Emmental (CXS 269-1967), Tilsiter (CXS 270-1968), Saint-Paulin (CXS 271-1968) and Provolone (CXS 272-1968): at a maximum level of 1000 mg/kg for surface treatment only.
Note	458	Except for use in cheese mass only for products conforming to the Standards for Cheddar (CXS 263-1966), Danbo (CXS 264-1966), Edam (CXS 265-1966), Gouda (CXS 266-1966), Havarti (CXS 267-1966), Samsø (CXS 268-1966), Emmental (CXS 269-1967), Tilsiter (CXS 270-1968), Saint-Paulin (CXS 271-1968), Provolone (CXS 272-1968), Coulommiers (CXS 274-1969), Camembert (CXS 276-1973) and Brie (CXS 277-1973); singly or in combination at 35 mg/kg.
Note	459	Except for use at 10,000 mg/kg, singly or in combination: silicon dioxide, amorphous (INS 551), calcium silicate (INS 552), magnesium silicate, synthetic (INS 553(i)) and talc (INS 553(iii)) in products conforming to the Standards for Cheddar (CXS 263-1966), Danbo (CXS 264-1966) Edam (CXS 265-1966), Gouda (CXS 266-1966), Havarti (CXS 267-1966), Samsø (CXS 268-1966), Emmental (CXS 269-1967), Tilsiter (CXS 270-1968), Saint-Paulin (CXS 271-1968) and Provolone (CXS 272-1968), as anticaking agents only: silicates calculated as silicon dioxide.
Note	460	Except for use at 3,000 mg/kg singly or in combination: propionic acid (INS 280), sodium propionate (INS 281) and calcium propionate (INS 282) in products conforming to the Standards for Cheddar (CXS 263-1966), Danbo (CXS 264-1966) Edam (CXS 265-1966), Gouda (CXS 266-1966), Havarti (CXS 267-1966), Samsø (CXS 268-1966), Tilsiter (CXS 270-1968), Saint-Paulin (CXS 271-1968) and Provolone (CXS 272-1968).
Note	461	For the surface treatment of sliced, cut, shredded or grated cheese for products conforming to the Standards for Cheddar (CXS 263-1966), Danbo (CXS 264-1966) Edam (CXS 265-1966), Gouda (CXS 266-1966), Havarti (CXS 267-1966), Samsø (CXS 268-1966), Emmental (CXS 269-1967), Tilsiter (CXS 270-1968), Saint-Paulin (CXS 271-1968) and Provolone (CXS 272-1968) only as anticaking agents
Note	462	For use in cheese mass only for products conforming to the Standards for Cheddar (CXS 263-1966) and Danbo (CXS 264-1966).
Note	463	For use in cheese mass only for products conforming to the Standards for Cheddar (CXS 263-1966), Danbo (CXS 264-1966) Edam (CXS 265-1966), Gouda (CXS 266-1966), Havarti (CXS 267-1966), Samsø (CXS 268-1966), Emmental (CXS 269-1967), Tilsiter (CXS 270-1968), Saint-Paulin (CXS 271-1968), Provolone (CXS 272-1968), Coulommiers (CXS 274-1969), Camembert (CXS 276-1973) and Brie (CXS 277-1973).
Note	464	For use in products conforming to the Standards for Cheddar (CXS 263-1966), Danbo (CXS 264-1966) Edam (CXS 265-1966), Gouda (CXS 266-1966), Havarti (CXS 267-1966), Samsø (CXS 268-1966), Emmental (CXS 269-1967), Tilsiter (CXS 270-1968), Saint-Paulin (CXS 271-1968) and Provolone (CXS 272-1968) only as preservatives.
Note	465	For products conforming to the Standard for Sugars (CXS 212-1999) as anticaking agents only: Calcium dihydrogen phosphate (INS 341(i)), calcium hydrogen phosphate (INS 341(ii)), tricalcium phosphate (INS 341(iii)), magnesium dihydrogen phosphate (INS 343(i)), magnesium hydrogen phosphate (INS 343(ii)), trimagnesium phosphate (INS 343(iii)), magnesium carbonate (INS 504(i)), bone phosphate (INS 542), silicon dioxide, amorphous (INS 551), calcium silicate (INS 552), and magnesium silicate, synthetic (INS 553(i)) singly or in combination but still within prescribed separate individual maximum levels.
Note	466	For use to produce carbonated products only.
Note	467	For flours for leavened bread only in products conforming to the Standard for Wheat Flour (CXS 152-1985).
Note	468	Except for use in products conforming to the Standard for Wheat Flour (CXS 152-1985) as a flour treatment agent only, at a maximum level of 60 mg/kg.

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Note	469	For use in products conforming to the Standard for Wheat Flour (CXS 152-1985) as a flour treatment agent: calcium dihydrogen phosphate (INS 341(i)), calcium hydrogen phosphate (INS 341(ii)), tricalcium phosphate (INS 341(iii)), ammonium dihydrogen phosphate (INS 342(i)) and diammonium hydrogen phosphate (INS 342(ii)) only.
Note	470	In products conforming to the Standard for Wheat Flour (CXS 152-1985), only for use as a flour treatment agent in flours for biscuit and pastry manufacture: sulfur dioxide (INS 220), sodium sulfite (INS 221), sodium metabisulfite (INS 223) and potassium metabisulfite (INS 224) only.
Note	471	In products conforming to the Standard for Wheat Flour (CXS 152-1985), only for use in flours for high ratio cakes.
Note	472	For use in products conforming to the Standard for Wheat Flour (CXS 152-1985) as a flour treatment agent only.
Note	473	Except for use in products conforming to the Standard for Instant Noodles (CXS 249-2006) at 200 mg/kg.
Note	474	Except for use of beta-carotenes, <i>Blakeslea trispora</i> (INS 160a(iii)) at 1000 mg/kg, carotenal, beta-apo-8' (INS 160e) at 200 mg/kg, and carotenoic acid, ethyl ester, beta-apo-8' (INS 160f) at 1000 mg/kg in products conforming to the Standard for Instant Noodles (CXS 249-2006).
Note	475	Except in products conforming to the Standard for Instant Noodles (CXS 249-2006): sodium dihydrogen phosphate (INS 339(i)), disodium hydrogen phosphate (INS 339(ii)), trisodium phosphate (INS 339(iii)), potassium dihydrogen phosphate (INS 340(i)), dipotassium hydrogen phosphate (INS 340(ii)), tripotassium phosphate (INS 340(iii)), calcium dihydrogen phosphate (INS 341(i)), calcium hydrogen phosphate (INS 341(ii)), tricalcium phosphate (INS 341(iii)), disodium diphosphate (INS 450(i)), trisodium phosphate (INS 450(ii)), tetrasodium diphosphate (INS 450(iii)), dipotassium diphosphate (INS 450(iv)), tetrapotassium diphosphate (INS 450(v)), calcium dihydrogen phosphate (INS 450(vii)), pentasodium triphosphate (INS 451(i)), pentapotassium triphosphate (INS 451(ii)), sodium polyphosphate (INS 452(i)), potassium polyphosphate (INS 452(ii)), sodium calcium polyphosphate (INS 452(iii)), calcium polyphosphate (INS 452(iv)), and ammonium polyphosphate (INS 452(v)) for use only as humectants at 2,000 mg/kg, singly or in combination, as phosphorus.
Note	476	For products conforming to the Standard for Instant Noodles (CXS 249-2006): sulfur dioxide (INS 220), sodium sulfite (INS 221), sodium metabisulfite (INS 223) and potassium metabisulfite (INS 224) for use as flour treatment agents only.
Note	477	Some Codex Members allow use of additives with sweetener function in all foods within this Food Category while others limit additives with sweetener function to those foods with significant energy reduction or no added sugars.
Note	478	Some Codex Members allow use of additives with sweetener function in all foods within this Food Category while others limit additives with sweetener function to those foods with significant energy reduction or no added sugars. This limitation may not apply to the appropriate use as a flavour enhancer.
Note	479	In powdered hydrolysed protein and/or amino acid based infant formula only.
Note	480	Except for use in products conforming to the Standard for a Blend of Evaporated Skimmed Milk and Vegetable Fat (CXS 250-2006) and the Standard for a Blend of Sweetened Condensed Skimmed Milk and Vegetable Fat (CXS 252-2006): sodium dihydrogen phosphate (INS 339(i)), disodium hydrogen phosphate (INS 339(ii)), trisodium phosphate (INS 339(iii)), potassium dihydrogen phosphate (INS 340(i)), dipotassium hydrogen phosphate (INS 340(ii)), tripotassium phosphate (INS 340(iii)), calcium dihydrogen phosphate (INS 341(i)), calcium hydrogen phosphate (INS 341(ii)), tricalcium phosphate (INS 341(iii)), disodium diphosphate (INS 450(i)), trisodium diphosphate (INS 450(ii)), tetrasodium diphosphate (INS 450(iii)), tetrapotassium diphosphate (INS 450(v)), dicalcium diphosphate (INS 450(vi)), calcium dihydrogen diphosphate (INS 450(vii)), pentasodium triphosphate (INS 451(i)), pentapotassium triphosphate (INS 451(ii)), sodium polyphosphate (INS 452(i)), potassium polyphosphate (INS 452(ii)), sodium calcium polyphosphate (INS 452(iii)), calcium polyphosphate (INS 452(iv)), ammonium polyphosphate (INS 452(v)), as acidity regulators only, at 4,400 mg/kg as phosphorus.

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Note	481	For use in products conforming to the Standard for a Blend of Skimmed Milk and Vegetable Fat in Powdered Form (CXS 251-2006), singly or in combination: butylated hydroxyanisole (BHA, INS 320), butylated hydroxytoluene (BHT, INS 321) and tertiary butylhydroxyquinone (TBHQ, INS 319).
Note	482	Except for use in products conforming to the Standard for a Blend of Skimmed Milk and Vegetable Fat in Powdered Form (CXS 251-2006): tricalcium phosphate (INS 341(iii)) and trimagnesium phosphate (INS 343(iii)) for use as anticaking agents only.
Note	483	Except for use in products conforming to the Standard for a Blend of Skimmed Milk and Vegetable Fat in Powdered Form (CXS 251-2006): sodium dihydrogen phosphate (INS 339(i)), disodium hydrogen phosphate (INS 339(ii)), trisodium phosphate (INS 339(iii)), potassium dihydrogen phosphate (INS 340(i)), dipotassium hydrogen phosphate (INS 340(ii)), tripotassium phosphate (INS 340(iii)), calcium dihydrogen phosphate (INS 341(i)), calcium hydrogen phosphate (INS 341(ii)), disodium diphosphate (INS 450(i)), trisodium diphosphate (INS 450(ii)), tetrasodium diphosphate (INS 450(iii)), tetrapotassium diphosphate (INS 450(v)), dicalcium diphosphate (INS 450(vi)), calcium dihydrogen diphosphate (INS 450(vii)), pentasodium triphosphate (INS 451(i)), pentapotassium triphosphate (INS 451(ii)), sodium polyphosphate (INS 452(i)), potassium polyphosphate (INS 452(ii)), sodium calcium polyphosphate (INS 452(iii)), calcium polyphosphate (INS 452(iv)), and ammonium polyphosphate (INS 452(v)), as acidity regulators only.
Note	484	Except for use in products conforming to the Group Standard for Unripened Cheese including Fresh Cheese (CXS 221-2001) at 15 mg/kg.
Note	485	Only for use in products conforming to the Standard for Unripened Cheese including Fresh Cheese (CXS 221-2001) and the cheese mass of products conforming to the Standard for Cream Cheese (CXS 275-1973).
Note	486	Except for use in the surface treatment of sliced, cut, shredded, and grated cheese products conforming to the Group Standard for Unripened Cheese including Fresh Cheese (CXS 221-2001): at 20 mg/kg applied to the surface, added during kneading and stretching process.
Note	487	Except for use in products conforming to the Group Standard for Unripened Cheese including Fresh Cheese (CXS 221-2001): phosphoric acid (INS338) as acidity regulators at 880 mg/kg as phosphorus, and sodium dihydrogen phosphate (INS 339(i)), disodium hydrogen phosphate (INS 339(ii)), trisodium phosphate (INS 339(iii)), potassium dihydrogen phosphate (INS 340(i)), dipotassium hydrogen phosphate (INS 340(ii)), tripotassium phosphate (INS 340(iii)), calcium dihydrogen phosphate (INS 341(i)), calcium hydrogen phosphate (INS 341(ii)), tricalcium phosphate (INS 341(iii)), disodium diphosphate (INS 450(i)) and trisodium diphosphate (INS 450(ii)), as stabilizers/thickeners at 1540 mg/kg as phosphorus, in cheese mass only.
Note	488	Except for use in products conforming to the Group Standard for Unripened Cheese including Fresh Cheese (CXS 221-2001): silicon dioxide, amorphous (INS 551), calcium silicate (INS 552), magnesium silicate, synthetic (INS 553(i)), talc (INS 553(iii)) and potassium silicate (INS 560), singly or in combination, as anticaking agents for the surface treatment of sliced, cut, shredded or grated cheese only, at 10,000 mg/kg as silicon dioxide.
Note	489	Except for use in products conforming to the General Standard for Unripened Cheese including Fresh Cheese (CXS 221-2001) at 25 mg/kg for carotenes, beta-, synthetic (INS 160a(i)) and 35 mg/kg for both carotenal, beta-apo-8' (INS 160e) and carotenoic acid, ethyl ester, beta-apo-08' (INS 160f) only, i.e. no provision for carotenes, beta-, Blakeslea trispora (INS 160a(iii)).
Note	490	Except for use in products conforming to the Standard for Cream Cheese (CXS 275-1973), for carotenes, beta-, synthetic (INS 160a(i)), beta-, Blakeslea trispora (INS 160a(iii)), carotenal, beta-apo-8' (INS 160e) and carotenoic acid, ethyl ester, beta-apo-08' (INS 160f), singly or in combination, at 35 mg/kg.
Note	491	Except for use in products conforming to the Group Standard for Unripened Cheese including Fresh Cheese (CXS 221-2001) at GMP.
Note	492	For use in cheese mass only of products conforming to the Standard for Cottage Cheese (CXS 273-1968) and the Standard for Cream Cheese (CXS 275-1973): sorbic acid (INS 200), potassium sorbate (INS 202), calcium sorbate (INS 203).

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Note	493	For use in products conforming to the Group Standard for Unripened Cheese including Fresh Cheese (CXS 221-2001), for treatment of edible cheese rind only.
Note	494	For use in cheese mass and the surface treatment of sliced, cut, shredded and grated cheese products conforming to the Group Standard for Unripened Cheese including Fresh Cheese (CXS 221-2001): sorbic acid (INS 200), potassium sorbate (INS 202), calcium sorbate (INS 203).
Note	495	Except for use in products conforming to the Standard for Cottage cheese (CXS 273-1968): phosphoric acid (INS338) as acidity regulators at 880 mg/kg as phosphorus, and sodium dihydrogen phosphate (INS 339(i)), disodium hydrogen phosphate (INS 339(ii)), trisodium phosphate (INS 339(iii)), potassium dihydrogen phosphate (INS 340(i)), dipotassium hydrogen phosphate (INS 340(ii)), tripotassium phosphate (INS 340(iii)), calcium dihydrogen phosphate (INS 341(i)), calcium hydrogen phosphate (INS 341(ii)), tricalcium phosphate (INS 341(iii)), ammonium dihydrogen phosphate (INS 342(i)), diammonium hydrogen phosphate (INS 342(ii)), magnesium hydrogen phosphate (INS343(ii)), trimagnesium phosphate (INS 343(iii)), disodium diphosphate (INS 450(i)), tetrasodium diphosphate (INS 450(iii)), tetrapotassium diphosphate (INS 450(v)), dicalcium diphosphate (INS 450(vi)), pentasodium triphosphate (INS 451(i)), pentapotassium triphosphate (INS 451(ii)), sodium polyphosphate (INS 452(i)), potassium polyphosphate (INS 452(ii)), calcium polyphosphate (INS 452(iv)), ammonium polyphosphate (INS 452(v)), as stabilizers at 1,300 mg/kg as phosphorus, in cheese mass only.
Note	496	Except for use in products conforming to the Standard for Cream cheese (CXS 275-1973): phosphoric acid (INS338) as acidity regulators at 880 mg/kg as phosphorus, and sodium dihydrogen phosphate (INS 339(i)), disodium hydrogen phosphate (INS 339(ii)), trisodium phosphate (INS 339(iii)), potassium dihydrogen phosphate (INS 340(i)), dipotassium hydrogen phosphate (INS 340(ii)), tripotassium phosphate (INS 340(iii)), calcium dihydrogen phosphate (INS 341(i)), calcium hydrogen phosphate (INS 341(ii)), tricalcium phosphate (INS 341(iii)), ammonium dihydrogen phosphate (INS 342(i)), diammonium hydrogen phosphate (INS 342(ii)), magnesium hydrogen phosphate (INS343(ii)), trimagnesium phosphate (INS 343(iii)), disodium diphosphate (INS 450(i)), tetrasodium diphosphate (INS 450(iii)), tetrapotassium diphosphate (INS 450(v)), dicalcium diphosphate (INS 450(vi)), pentasodium triphosphate (INS 451(i)), pentapotassium triphosphate (INS 451(ii)), sodium polyphosphate (INS 452(i)), potassium polyphosphate (INS 452(ii)), calcium polyphosphate (INS 452(iv)), ammonium polyphosphate (INS 452(v)), as stabilizers at 4400 mg/kg as phosphorus, in cheese mass only.
Note	497	Except for use in products conforming to the Standard for Cream cheese (CXS 275-1973) as an emulsifier in cheese mass only.
Note	498	Only for use in the edible cheese rind in products conforming to the General Standard for Cheese (CXS 283-1978).
Note	499	Except for use in products conforming to the Standard for Extra Hard Grating Cheese (CXS 278-1978): sorbic acid (INS 200), potassium sorbate (INS 202) and calcium sorbate (INS 203), at 1000 mg/kg as sorbic acid in the final product.
Note	500	Except for use in products conforming to the General Standard for Cheese (CXS 283-1978) at 25 mg/kg for carotenes, beta-, synthetic (INS 160a(ii)) and 35 mg/kg for both carotenal, beta-apo-8' (INS 160e) and carotenoic acid, ethyl ester, beta-apo-08'- (INS 160f) only, i.e. no provision for carotenes, beta-, <i>Blakeslea trispora</i> (INS 160a(iii)).
Note	501	For use in the cheese mass at 3000 mg/kg, and for surface or rind treatment of sliced, cut, shredded or grated cheese only at 1000 mg/kg, for products conforming to the General Standard for Cheese (CXS 283-1978): sorbic acid (INS 200), potassium sorbate (INS 202) and calcium sorbate (INS 203), as sorbic acid.
Note	502	Except for use in surface treatment of sliced, cut, shredded or grated cheese only for products conforming to the General Standard for Cheese (CXS 283-1978): silicon dioxide, amorphous (INS 551), calcium silicate (INS 552), magnesium silicate, synthetic (INS 553(i)), talc (INS 553(iii)) and potassium silicate (INS 560) as anticaking agents at 10,000 mg/kg, as silicon dioxide, singly or in combination.
Note	503	Except for use in products conforming to the General Standard for Cheese (CXS 283-1978): propionic acid (INS 280), sodium propionate (INS 281) and calcium propionate (INS 282) at 3000 mg/kg as propionic acid.

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Note	504	Except for use in products conforming to the General Standard for Cheese (CXS 283-1978) at GMP.
Note	505	Except for use in products conforming to the General Standard for Cheese (CXS 283-1978) at GMP for red marbled cheeses only.
Note	506	Except for use in products conforming to the General Standard for Cheese (CXS 283-1978) at 50 mg/kg.
Note	507	For use in products conforming to the Standard for Edible fats and Oils Not Covered by Individual Standards (CXS 19-1981).
Note	508	For use in products conforming to the Standard for Edible Fats and Oils not Covered by Individual Standards (CXS 19-1981) for the purposes of natural colour lost in processing, or standardizing colour only.
Note	509	Excluding virgin and cold pressed oils in products conforming to the Standard for Edible Fats and Oils not Covered by Individual Standards (CXS 19-1981).
Note	510	Wafer paper only.
Note	511	Excluding virgin and cold pressed oils in products conforming to the Standard for Edible Fats and Oils not Covered by Individual Standards (CXS 19-1981) and the Standard for Named Vegetable Oils (CXS 210-1999).
Note	512	For use in products conforming to the Standard for Edible fats and oils not Covered by Individual Standards (CXS 19-1981) and the Standard for Named Animal Fats (CXS 211-1999) for the purposes of restoring natural colour lost in processing, or standardizing colour only.
Note	513	Except for use in products conforming to the Standard for Edible Fats and Oils not Covered by Individual Standards (CXS 19-1981) at 300 mg/kg.
Note	514	Except for use in products conforming to the Standard for Edible Fats and Oils not Covered by Individual Standards (CXS 19-1981): butylated hydroxyanisole (INS 320) at 175 mg/kg, butylated hydroxytoluene (INS 321) at 75 mg/kg, propyl gallate (INS 310) at 100 mg/kg, and tertiary butylhydroquinone (INS 319) at 120 mg/kg; as well, any combination of INS 320, INS 321, INS 310 and INS 319 at up to 200 mg/kg, provided the single use limits are not exceeded.
Note	515	Except for use in products conforming to the Standard for Edible Fats and Oils not Covered by Individual Standards (CXS 19-1981) and the Standard for Named Vegetable Oils (CXS 210-1999): butylated hydroxyanisole (INS 320) at 175 mg/kg, butylated hydroxytoluene (INS 321) at 75 mg/kg, propyl gallate (INS 310) at 100 mg/kg, and tertiary butylhydroquinone (INS 319) at 120 mg/kg; as well, any combination of INS 320, INS 321, INS 310 and INS 319 at up to 200 mg/kg, provided the single use limits are not exceeded.
Note	516	Except for use in products conforming to the Standard for Edible Fats and Oils not Covered by Individual Standards (CXS 19-1981) and the Standard for Named Animal Fats (CXS 211-1999): butylated hydroxyanisole (INS 320) at 175 mg/kg, butylated hydroxytoluene (INS 321) at 75 mg/kg, propyl gallate (INS 310) at 100 mg/kg, and tertiary butylhydroquinone (INS 319) at 120 mg/kg; as well, any combination of INS 320, INS 321, INS 310 and INS 319 at up to 200 mg/kg, provided the single use limits are not exceeded.
Note	517	Except for use in products conforming to the Standard for Edible fats and oils not covered by individual standards (CXS 19-1981) at 25 mg/kg for the purposes of restoring natural colour lost in processing, or standardizing colour only.
Note	518	Except for use in products conforming to the Standard for Edible fats and oils not covered by individual standards (CXS 19-1981) and the Standard for Named Animal Fats (CXS 211-1999) at 25 mg/kg for the purposes of restoring natural colour lost in processing, or standardizing colour only.
Note	519	For use in products conforming to the Standard for Edible Fats and Oils not Covered by Individual Standards (CXS 19-1981) and the Standard for Named Vegetable Oils (CXS 210-1999) as an antioxidant only.
Note	520	Except for use in products conforming to the Standard for Edible Fats and Oils not Covered by Individual Standards (CXS 19-1981), the Standard for Named Vegetable Oils (CXS 210-1999), singly or in combination: isopropyl citrates (INS 384) and citric and fatty acid esters of glycerol (INS 472c) at 100 mg/kg.

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Note	521	For use in products conforming to the Standard for Edible Fats and Oils not Covered by Individual Standards (CXS 19-1981) and the Standard for Named Animal Fats (CXS 211-1999), singly or in combination: isopropyl citrates (INS 384) and citric and fatty acid esters of glycerol (INS 472c) at 100 mg/kg.
Note	522	For use in products conforming to the Standard for Edible Fats and Oils not Covered by Individual Standards (CXS 19-1981) and Named Animal Fats (CXS 211-1999).
Note	523	For use in products conforming to the Standard for Edible Fats and Oils not Covered by Individual Standards (CXS 19-1981), as an antifoaming agent in oils for deep frying only.
Note	524	For use in products conforming to the Standard for Edible Fats and Oils not Covered by Individual Standards (CXS 19-1981) and the Standard for Named Vegetable Oils (CXS 210-1999), as an antifoaming agent in oils for deep frying only.
Note	525	For use in products conforming to the Standard for Edible Fats and Oils not Covered by Individual Standards (CXS 19-1981) and the Standard for Named Animal Fats (CXS 211-1999), as an antifoaming agent in oils for deep frying only.
Note	526	Except for use in products conforming to the Standards for Fish Oils (CXS 329-2017) at 2500 mg/kg.
Note	527	Except for use in products conforming to the Standards for Fish Oils (CXS 329-2017), singly or in combination at 6000 mg/kg.
Note	528	For use in products conforming to the Standard for Fat Spreads and Blended Spreads (CXS 256-2007).
Note	529	For use in products conforming to the Standard for Fat Spreads and Blended Spreads (CXS 256-2007); if benzoates and sorbates are used in combination, the combined use shall not exceed 2000 mg/kg of which the benzoic acid portion shall not exceed 1000 mg/kg.
Note	530	Except for use in products conforming to the Standard for Spreads and Blended Spreads (CXS 256-2007): phosphoric acid (INS 338), sodium dihydrogen phosphate (INS 339(i)), disodium hydrogen phosphate (INS 339(ii)), trisodium phosphate (INS 339(iii)), potassium dihydrogen phosphate (INS 340(i)), dipotassium hydrogen phosphate (INS 340(ii)), tripotassium phosphate (INS 340(iii)), calcium dihydrogen phosphate (INS 341(i)), calcium hydrogen phosphate (INS 341(ii)), tricalcium phosphate (INS 341(iii)), ammonium dihydrogen phosphate (INS 342(i)), diammonium hydrogen phosphate (INS 342(ii)), magnesium dihydrogen phosphate (INS 343(i)), magnesium hydrogen phosphate (INS 343(ii)), trimagnesium phosphate (INS 343(iii)), disodium diphosphate (INS 450(i)), trisodium diphosphate (INS 450(ii)), tetrasodium diphosphate (INS 450(iii)), tetrapotassium diphosphate (INS 450(v)), dicalcium diphosphate (INS 450(vi)), calcium dihydrogen diphosphate (INS 450(vii)), magnesium dihydrogen diphosphate (INS 450(ix)), pentasodium triphosphate (INS 451(i)), pentapotassium triphosphate (INS 451(ii)), sodium polyphosphate (INS 452(i)), potassium polyphosphate (INS 452(ii)), sodium calcium polyphosphate (INS 452(iii)), calcium polyphosphate (INS 452(iv)), ammonium polyphosphate (INS 452(v)), as acidity regulators at 1000 mg/kg as phosphorus.
Note	531	For use in products conforming to the Standard for Spreads and Blended Spreads (CXS 256-2007); for use in fat emulsions for frying or baking purpose only.
Note	532	For products conforming to the Standard for Black, White and Green Peppers (CXS 326-2017), only sulfur dioxide (INS 220) may be used and only in green peppers.
Note	533	Except for use at 100 mg/kg in liquid forms as sold to the consumer only.
Note	534	For herbs use is limited to herbs that have been ground or processed into powder only.
Note	535	Except for use in hard capsules and film coated tablets at 1800 mg/kg.
Note	536	For use as an emulsifier only.
Note	537	Except for use at 5000 mg/kg in products conforming to the Regional Standard for Chilli Sauce (CXS 306R-2011).
Note	538	For use in low oil content or refrigerated products only.
Note	539	For use in solid forms as sold to the consumer only.
Note	XS13	Excluding products conforming to the Standard for Preserved Tomatoes (CODEX STAN 13-1981).

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Note	XS36	Excluding products conforming to the Standard for Quick Frozen Finfish, Uneviscerated and Eviscerated (CODEX STAN 36-1981).
Note	XS38	Excluding products conforming to the General Standard for Edible Fungi and Fungus Products (CODEX STAN 38-1981).
Note	XS57	Excluding products conforming to the Standard for Processed Tomato Concentrates (CODEX STAN 57-1981).
Note	XS66	Excluding products conforming to the Standard for Table Olives (CODEX STAN 66-1981).
Note	XS86	Excluding products conforming to the Standard for Cocoa Butter (CODEX STAN 86-1981).
Note	XS87	Excluding products conforming to the Standard for Chocolate and Chocolate Products (CODEX STAN 87-1981).
Note	XS88	Excluding products conforming to the Standard for Corned Beef (CODEX STAN 88-1981).
Note	XS89	Excluding products conforming to Standard for Luncheon Meat (CODEX STAN 89-1981).
Note	XS92	Excluding products conforming to the Standard for Quick Frozen Shrimps and Prawns (CODEX STAN 92-1981).
Note	XS95	Excluding products conforming to the Standard for Quick Frozen Lobsters (CODEX STAN 95-1981).
Note	XS96	Excluding products conforming to the Standard for Cooked Cured Ham (CODEX STAN 96-1981).
Note	XS97	Excluding products conforming to the Standard for Cooked Cured Pork Shoulder (CODEX STAN 97-1981).
Note	XS98	Excluding products conforming to the Standard for Cooked Cured Chopped Meat (CODEX STAN 98-1981).
Note	XS105	Excluding products conforming to the Standard for Cocoa Powders (Cocoas) and Dry Mixtures of Cocoa and Sugars (CODEX STAN 105-1981).
Note	XS115	Excluding products conforming to the Standard for Pickled Cucumbers (Cucumber Pickles) (CODEX STAN 115-1981).
Note	XS117	Excluding products conforming to the Codex Standard for Bouillons and Consommés (CODEX STAN 117-1981).
Note	XS141	Excluding products conforming to the Standard for Cocoa (Cacao) Mass (Cocoa/chocolate liquor) and Cocoa Cake (CODEX STAN 141-1983).
Note	XS145	Excluding products conforming to the Standard for Canned Chestnuts and Canned Chestnut Puree (CODEX STAN 145-1985).
Note	XS165	Excluding products conforming to the Standard for Quick Frozen Blocks of Fish Fillet, Minced Fish Flesh and Mixtures of Fillets and Minced Fish Flesh (CODEX STAN 165-1989).
Note	XS166	Excluding products conforming to the Standard for Quick Frozen Fish Sticks (Fish Fingers), Fish Portions and Fish Fillets – Breaded or in Batter (CODEX STAN 166-1989).
Note	XS189	Excluding products conforming to the Standard for Dried Shark Fins (CODEX STAN 189-1993).
Note	XS190	Excluding products conforming to the Standard for Quick Frozen Fish Fillets (CODEX STAN 190-1995).
Note	XS191	Excluding products conforming to the Standard for Quick Frozen Raw Squid (CODEX STAN 191-1995).
Note	XS208	Excluding products conforming to the Standard for Cheese in Brine (CODEX STAN 208-1999).
Note	XS222	Excluding products conforming to the Standard for Crackers from Marine and Freshwater Fish, Crustaceans and Molluscan Shellfish (CODEX STAN 222-2001).
Note	XS236	Excluding products conforming to the Standard for Boiled Dried Salted Anchovies (CODEX STAN 236-2003).
Note	XS240	Excluding products conforming to the Standard for Aqueous Coconut Products (CODEX STAN 240-2003).
Note	XS243	Excluding products conforming to the Standard for Fermented Milks (CODEX STAN 243-2003).

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Note	XS250	Excluding products conforming to the Standard for a Blend of Evaporated Skimmed Milk and Vegetable Fat (CODEX STAN 250-2006).
Note	XS251	Excluding products conforming to the Standard for a Blend of Skimmed Milk and Vegetable Fat in Powdered Form (CODEX STAN 251-2006).
Note	XS252	Excluding products conforming to the Standard for a Blend of Sweetened Condensed Skimmed Milk and Vegetable Fat (CODEX STAN 252-2006).
Note	XS253	Excluding products conforming to the Standard for Dairy Fat Spreads (CODEX STAN 253-2006).
Note	XS257R	Excluding products conforming to the Codex Regional Standard for Canned Humus with Tehena (CODEX STAN 257R-2007).
Note	XS259R	Excluding products conforming to the Codex Regional Standard for Tehena (CODEX STAN 259R-2007).
Note	XS260	Excluding products conforming to the Standard for Pickled Fruits and Vegetables (CODEX STAN 260-2007).
Note	XS262	Excluding products conforming to the Standard for Mozzarella (CODEX STAN 262-2007).
Note	XS292	Excluding products conforming to the Standard for Live and Raw Bivalve Molluscs (CODEX STAN 292-2008).
Note	XS297	Excluding products conforming to the Standard for Certain Canned Vegetables (CODEX STAN 297-2009).
Note	XS309R	Excluding products conforming to the Codex Regional Standard for Halawa Tehenia (CODEX STAN 309R-211).
Note	XS311	Excluding products conforming to the Standard for Smoked Fish, Smoked-flavoured Fish and Smoke-dried Fish (CODEX STAN 311-2013).
Note	XS312	Excluding products conforming to the Standard for Live Abalone and for Raw Fresh Chilled or Frozen Abalone for Direct Consumption or for Further Processing (CODEX STAN 312-2013).
Note	XS314R	Excluding products conforming to the Standard for Date Paste (CODEX STAN 314R-2013).
Note	XS315	Excluding products conforming to the Standard for Fresh and Quick Frozen Raw Scallop Products (CODEX STAN 315-2014).
Note	XS67	Excluding products conforming to the Standard for Raisins (CODEX STAN 67-1981).
Note	XS130	Excluding products conforming to the Standard for Dried Apricots (CODEX STAN 130-1981).
Note	XS160	Excluding products conforming to the Standard for Mango Chutney (CODEX STAN 160-1987).
Note	XS211	Excluding products conforming to the Standard for Named Animal Fat (CODEX STAN 211- 1999).
Note	XS296	Excluding products conforming to the Standard for Jams, Jellies and Marmalades (CODEX STAN 296-2009).
Note	XS73	Excluding products conforming to the Standard for Canned Baby Foods (CODEX STAN 73- 1981).
Note	XS167	Excluding products conforming to the Standard for Salted Fish and Dried Salted Fish of the Gadidae Family of Fishes (CODEX STAN 167-1989).
Note	XS244	Excluding products conforming to the Standard for Salted Atlantic Herring and Salted Sprat (CODEX STAN 244-2004).
Note	XS291	Excluding products conforming to the Standard for Sturgeon Caviar (CODEX STAN 291-2010).
Note	XS302	Excluding products conforming to the Standard for Fish Sauce (CODEX STAN 302-2011).
Note	XS306R	Excluding products conforming to the Standard for Chilli Sauce (Regional Standard) (CODEX STAN 306R-2011).
Note	XS326	Excluding products conforming to the Standard for Black, White and Green Peppers (CODEX STAN 326-2017).
Note	XS327	Excluding products conforming to the Standard for Cumin (CODEX STAN 327-2017).
Note	XS328	Excluding products conforming to the Standard for Dried Thyme (CODEX STAN 328-2017).

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Note	XS319	Excluding products conforming to the Standard for Certain Canned Fruits (CODEX STAN 319-2015).
Note	XS33	Excluding products conforming to the Standard for Olive Oils and Olive Pomace Oils (CODEX STAN 33-1981).
Note	XS94	Excluding products conforming to the Standard for Canned Sardines and Sardine-Type Products (CODEX STAN 94-1981).
Note	XS3	Excluding products conforming to the Standard for Canned Salmon (CODEX STAN 3-1981).
Note	XS37	Excluding products conforming to the Standard for Canned Shrimps or Prawns (CODEX STAN 37-1991).
Note	XS70	Excluding products conforming to the Standard for Canned Tuna and Bonito (70-1981).
Note	XS90	Excluding products conforming to the Standard for Canned Crab Meat (CODEX STAN 90-1981).
Note	XS119	Excluding products conforming to the Standard for Canned Finfish (CODEX STAN 119-1981).
Note	XS263	Excluding products conforming to the Standard for Cheddar (CXS 263-1966).
Note	XS264	Excluding products conforming to the Standard for Danbo (CXS 264-1966).
Note	XS265	Excluding products conforming to the Standard for Edam (CXS 265-1966).
Note	XS266	Excluding products conforming to the Standard for Gouda (CXS 266-1966).
Note	XS267	Excluding products conforming to the Standard for Havarti (CXS 267-1966).
Note	XS268	Excluding products conforming to the Standard for Samsø (CXS 268-1966).
Note	XS269	Excluding products conforming to the Standard for Emmental (CXS 269-1967).
Note	XS270	Excluding products conforming to the Standard for Tilsiter (CXS 270-1968).
Note	XS271	Excluding products conforming to the Standard for Saint-Paulin (CXS 271-1968).
Note	XS272	Excluding products conforming to the Standard for Provolone (CXS 272-1968).
Note	XS274	Excluding products conforming to the Standard for Coulommiers (CXS 274-1969).
Note	XS276	Excluding products conforming to the Standard for Camembert (CXS 276-1973).
Note	XS277	Excluding products conforming to the Standard for Brie (CXS 277-1973).
Note	XS152	Excluding products conforming to the Standard for Wheat Flour (CXS 152-1985).
Note	XS202	Excluding products conforming to the Standard for Couscous (CXS 202-1995).
Note	XS249	Excluding products conforming to the Standard for Instant Noodles (CXS 249-2006).
Note	XS175	Excluding products conforming to the Standard for Soy Protein Products (CXS 175-1989).
Note	XS118	Excluding products conforming to the Standard for Foods for Special Dietary Use for Persons Intolerant to Gluten (CXS 118-1979).
Note	XS151	Excluding products conforming to the Standard for Gari (CXS 151-1985).
Note	XS181	Excluding products conforming to the Standard for Formula Foods for Use in Weight Control Diets (CXS 181-1991).
Note	XS203	Excluding products conforming to the Standard for Formula Foods for Use in Very Low Energy Diets for Weight Reduction (CXS 203-1995).
Note	XS210	Excluding products conforming to the Standard for Named Vegetable Oils (CXS 210-1999).
Note	XS221	Excluding products conforming to the Group Standard for Unripened Cheese including Fresh Cheese (CXS 221-2001).
Note	XS223	Excluding products conforming to the Standard for Kimchi (CXS 223-2001).
Note	XS256	Excluding products conforming to the Standard for Fat Spreads and Blended Spreads (CXS 256-2007).
Note	XS273	Excluding products conforming to the Standard for Cottage Cheese (CXS 273-1968).
Note	XS275	Excluding products conforming to the Standard for Cream Cheese (CXS 275-1973).
Note	XS278	Excluding products conforming to the Standard for Extra Hard Grating Cheese (CXS 278-1978).
Note	XS279	Excluding products conforming to the Standard for Butter (CXS 279-1971).
Note	XS283	Excluding products conforming to the General Standard for Cheese (CXS 283-1978).

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Note	XS294R	Excluding products conforming to the Regional Standard for Gochujang (CXS 294R-2009).
Note	XS325R	Excluding products conforming to the Regional Standard for Unrefined Shea Butter (CXS 325R-2017).
Note	XS329	Excluding products conforming to the Standard for Fish Oils (CXS 329-2017).
Note	XS19	Excluding products conforming to the Standard for Edible Fats and Oils not covered by Individual Standards (CXS 19-1981).
Note	XS207	Excluding products conforming to the Standard for Standard for Milk Powders and Cream Powder (CXS 207-1999)
Note	XS290	Excluding products conforming to the Standard for Standard for Edible Casein Products (CXS 290-1995).
Note	XS308R	Excluding products conforming to the Regional Standard for Harissa (Red Hot Pepper Paste) (CXS 308R-2011).
Note	XS321	Excluding products conforming to the Standard for Ginseng Products (CXS 321-2015).
Note	XS332R	Excluding products conforming to the Regional Standard for Doogh (CXS 332R-2018).

GENERAL STANDARD FOR FOOD ADDITIVES

TABLE THREE

Additives Permitted for Use in Food in General, Unless Otherwise Specified, in Accordance with GMP

INS No	Additive	Functional Class	Year Adopted	Specific allowance in the following commodity standards ¹
260	Acetic acid, glacial	Acidity regulator, Preservative	1999	CS 70-1981, CS 94-1981, CS 119-1981, CS 302-2011, CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973
472a	Acetic and fatty acid esters of glycerol	Emulsifier, Sequestrant, Stabilizer	1999	CS 275-1973
1422	Acetylated distarch adipate	Emulsifier, Stabilizer, Thickener	1999	CS 70-1981, CS 94-1981, CS 119-1981, CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973
1414	Acetylated distarch phosphate	Emulsifier, Stabilizer, Thickener	1999	CS 70-1981, CS 94-1981, CS 119-1981, CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973
1451	Acetylated oxidized starch	Emulsifier, Stabilizer, Thickener	2005	CS 249-2006
1401	Acid-treated starch	Emulsifier, Stabilizer, Thickener	1999	CS 105-1981, CS 70-1981, CS 94-1981, CS 119-1981, CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973
406	Agar	Bulking agent, Carrier, Emulsifier, Gelling agent, Glazing agent, Humectant, Stabilizer, Thickener	1999	CS 96-1981, CS 97-1981, CS 70-1981 (for use in packing media only), CS 94-1981 (for use in packing media only), CS 119-1981 (for use in packing media only), CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973

¹ This column only lists commodity standards that allow specific Table 3 additives. If a commodity standard allows Table 3 additives on a general basis or based on functional class, that information is contained in the "References to Commodity Standards for GSFA Table 3 Additives"

INS No	Additive	Functional Class	Year Adopted	Specific allowance in the following commodity standards ¹
400	Alginic acid	Bulking agent, Carrier, Emulsifier, Foaming agent, Gelling agent, Glazing agent, Humectant, Sequestrant, Stabilizer, Thickener	1999	CS 105-1981, CS 70-1981 (for use in packing media only), CS 94-1981 (for use in packing media only), CS 119-1981 (for use in packing media only), CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973
1402	Alkaline treated starch	Emulsifier, Stabilizer, Thickener	1999	CS 105-1981, CS 70-1981, CS 94-1981, CS 119-1981, CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973
1100(i)	alpha-Amylase from <i>Aspergillus oryzae</i> var.	Flour treatment agent	1999	
1100(iv)	alpha-Amylase from <i>Bacillus megaterium</i> expressed in <i>Bacillus subtilis</i>	Flour treatment agent	1999	
1100(ii)	alpha-Amylase from <i>Bacillus stearothermophilus</i>	Flour treatment agent	1999	
1100(v)	alpha-Amylase from <i>Bacillus stearothermophilus</i> expressed in <i>Bacillus subtilis</i>	Flour treatment agent	1999	
1100(iii)	alpha-Amylase from <i>Bacillus subtilis</i>	Flour treatment agent	1999	
403	Ammonium alginate	Bulking agent, Carrier, Emulsifier, Foaming agent, Gelling agent, Glazing agent, Humectant, Sequestrant, Stabilizer, Thickener	1999	CS 221-2001, CS 273-1968, CS 275-1973
503(i)	Ammonium carbonate	Acidity regulator, Raising agent	1999	CS 87-1981, CS 105-1981, CS 141-1983
510	Ammonium chloride	Flour treatment agent	1999	
503(ii)	Ammonium hydrogen carbonate	Acidity regulator, Raising agent	1999	CS 87-1981, CS 105-1981, CS 141-1983
527	Ammonium hydroxide	Acidity regulator	1999	CS 87-1981, CS 105-1981, CS 141-1983
300	Ascorbic acid, L-	Acidity regulator, Antioxidant, Flour treatment agent, Sequestrant	1999	CS 88-1981, CS 89-1981, CS 96-1981, CS 97-1981, CS 98-1981, CS 13-1981, CS 57-1981, CS 302-2011, CS 319-2015 (as antioxidant in canned pineapples), CS 249-2006, CS 251-2006, CS 275-1973
162	Beet red	Colour	1999	CS 249-2006, CS 221-2001, CS 283-1978

¹ This column only lists commodity standards that allow specific Table 3 additives. If a commodity standard allows Table 3 additives on a general basis or based on functional class, that information is contained in the "References to Commodity Standards for GSFA Table 3 Additives"

INS No	Additive	Functional Class	Year Adopted	Specific allowance in the following commodity standards ¹
1403	Bleached starch	Emulsifier, Stabilizer, Thickener	1999	CS 105-1981, CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973
1101(iii)	Bromelain	Flavour enhancer, Flour treatment agent, Stabilizer	1999	
629	Calcium 5'-guanylate	Flavour enhancer	1999	
633	Calcium 5'-inosinate	Flavour enhancer	1999	
634	Calcium 5'-ribonucleotides	Flavour enhancer	1999	
263	Calcium acetate	Acidity regulator, Preservative, Stabilizer	1999	CS 273-1968, CS 275-1973
404	Calcium alginate	Antifoaming agent, Bulking agent, Carrier, Foaming agent, Gelling agent, Glazing agent, Humectant, Sequestrant, Stabilizer, Thickener	1999	CS 70-1981 (for use in packing media only), CS 94-1981 (for use in packing media only), CS 119-1981 (for use in packing media only), CS 221-2001, CS 273-1968, CS 275-1973
302	Calcium ascorbate	Antioxidant	1999	CS 275-1973
170(i)	Calcium carbonate	Acidity regulator, Anticaking agent, Colour, Firming agent, Flour treatment agent, Stabilizer	1999	CS 87-1981, CS 105-1981, CS 141-1983, CS 249-2006, CS 263-1966, CS 264-1966, CS 265-1966, CS 266-1966, CS 267-1966, CS 268-1966, CS 269-1967, CS 270-1968, CS 271-1968, CS 272-1968 (for use in cheese mass only for these standards), CS 221-2001, CS 250-2006, CS 251-2006, CS 252-2006, CS 273-1968, CS 275-1973, CS 283-1978
509	Calcium chloride	Firming agent, Stabilizer, Thickener	1999	CS 250-2006, CS 251-2006, CS 252-2006
623	Calcium di-L-glutamate	Flavour enhancer	1999	
578	Calcium gluconate	Acidity regulator, Firming agent, Sequestrant	1999	CS 57-1981, CS 273-1968, CS 275-1973
526	Calcium hydroxide	Acidity regulator, Firming agent	1999	CS 87-1981, CS 105-1981, CS 141-1983
327	Calcium lactate	Acidity regulator, Emulsifying salt, Firming agent, Flour treatment agent, Thickener	1999	CS 249-2006, CS 273-1968, CS 275-1973
352(ii)	Calcium malate, D, L-	Acidity regulator	1999	CS 302-2011, CS 273-1968, CS 275-1973

¹ This column only lists commodity standards that allow specific Table 3 additives. If a commodity standard allows Table 3 additives on a general basis or based on functional class, that information is contained in the "References to Commodity Standards for GSFA Table 3 Additives"

INS No	Additive	Functional Class	Year Adopted	Specific allowance in the following commodity standards ¹
529	Calcium oxide	Acidity regulator, Flour treatment agent	1999	CS 249-2006
282	Calcium propionate	Preservative	1999	CS 221-2001, CS 273-1968, CS 275-1973
552	Calcium silicate	Anticaking agent	1999	CS 105-1981, CS 251-2006
516	Calcium sulfate	Acidity regulator, Firming agent, Flour treatment agent, Sequestrant, Stabilizer	1999	CS 249-2006
150a	Caramel I – plain caramel	Colour	1999	CS 249-2006
1100(vi)	Carbohydase from <i>Bacillus licheniformis</i>	Flour treatment agent	1999	
290	Carbon dioxide	Carbonating agent, Foaming agent, Packaging gas, Preservative, Propellant	1999	CS 221-2001 (for whipped products only), CS 275-1973
410	Carob bean gum	Emulsifier, Stabilizer, Thickener	1999	CS 105-1981, CS 70-1981 (for use in packing media only), CS 94-1981 (for use in packing media only), CS 119-1981 (for use in packing media only), CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973
407	Carrageenan	Bulking agent, Carrier, Emulsifier, Gelling agent, Glazing agent, Humectant, Stabilizer, Thickener	1999	CS 96-1981, CS 97-1981, CS 105-1981, CS 70-1981 (for use in packing media only), CS 94-1981 (for use in packing media only), CS 119-1981 (for use in packing media only), CS 249-2006, CS 221-2001, CS 250-2006, CS 252-2006, CS 273-1968, CS 275-1973
427	Cassia gum	Emulsifier, Gelling agent, Stabilizer, Thickener	2012	
140	Chlorophylls	Colour	1999	CS 263-1966, CS 264-1966 (for use in cheese mass only for these standards), CS 221-2001, CS 283-1978 (for green marbled cheeses only)
330	Citric acid	Acidity regulator, Antioxidant, Colour retention agent, Sequestrant	1999	CS 87-1981, CS 105-1981, CS 141-1983, CS 13-1981, CS 57-1981, CS 37-1991, CS 70-1981, CS 90-1981, CS 94-1981, CS 119-1981, CS 302-2011, CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973

¹ This column only lists commodity standards that allow specific Table 3 additives. If a commodity standard allows Table 3 additives on a general basis or based on functional class, that information is contained in the "References to Commodity Standards for GSFA Table 3 Additives"

INS No	Additive	Functional Class	Year Adopted	Specific allowance in the following commodity standards ¹
472c	Citric and fatty acid esters of glycerol	Antioxidant, Emulsifier, Flour treatment agent, Sequestrant, Stabilizer	1999	CS 275-1973
468	Cross-linked sodium carboxymethyl cellulose (Cross-linked-cellulose gum)	Stabilizer, Thickener	2005	CS 302-2011
424	Curdlan	Firming agent, Gelling agent, Stabilizer, Thickener	2001	CS 249-2006
457	Cyclodextrin, alpha-	Stabilizer, Thickener	2005	
458	Cyclodextrin, gamma-	Stabilizer, Thickener	2001	
1504(i)	Cyclotetraglucose	Carrier	2015	
1504(ii)	Cyclotetraglucose syrup	Carrier	2015	
1400	Dextrins, roasted starch	Carrier, Emulsifier, Stabilizer, Thickener	1999	CS 105-1981, CS 221-2001, CS 273-1968, CS 275-1973
628	Dipotassium 5'-guanylate	Flavour enhancer	1999	
627	Disodium 5'-guanylate	Flavour enhancer	1999	CS 89-1981, CS 96-1981, CS 97-1981, CS 98-1981, CS 302-2011, CS 249-2006
631	Disodium 5'-inosinate	Flavour enhancer	1999	CS 89-1981, CS 96-1981, CS 97-1981, CS 98-1981, CS 302-2011, CS 249-2006
635	Disodium 5'-ribonucleotides	Flavour enhancer	1999	CS 249-2006
1412	Distarch phosphate	Emulsifier, Stabilizer, Thickener	1999	CS 70-1981, CS 94-1981, CS 119-1981, CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973
315	Erythorbic Acid (Isoascorbic acid)	Antioxidant	1999	CS 88-1981, CS 89-1981, CS 96-1981, CS 97-1981, CS 98-1981
968	Erythritol	Flavour enhancer, Humectant, Sweetener	2001	
462	Ethyl cellulose	Bulking agent, Carrier, Glazing agent, Thickener	1999	
467	Ethyl hydroxyethyl cellulose	Emulsifier, Stabilizer, Thickener	1999	
297	Fumaric acid	Acidity regulator	1999	
418	Gellan gum	Gelling agent, Stabilizer, Thickener	1999	CS 105-1981, CS 249-2006, CS 275-1973

¹ This column only lists commodity standards that allow specific Table 3 additives. If a commodity standard allows Table 3 additives on a general basis or based on functional class, that information is contained in the "References to Commodity Standards for GSFA Table 3 Additives"

INS No	Additive	Functional Class	Year Adopted	Specific allowance in the following commodity standards ¹
575	Glucono delta-lactone	Acidity regulator, Raising agent, Sequestrant	1999	CS 89-1981, CS 98-1981, CS 13-1981, CS 57-1981, CS 263-1966, CS 264-1966, CS 265-1966, CS 266-1966, CS 267-1966, CS 268-1966, CS 269-1967, CS 270-1968, CS 271-1968, CS 272-1968, CS 274-1969, CS276-1973, CS277-1973 (for use in cheese mass only for these standards), CS 208-1999, CS 221-2001, CS 273-1968, CS 275-1973, CS 283-1978
1102	Glucose oxidase	Antioxidant	1999	
620	Glutamic acid, L(+)-	Flavour enhancer	1999	CS 249-2006
422	Glycerol	Humectant, Thickener	1999	CS 87-1981
626	Guanylic acid, 5'-	Flavour enhancer	1999	
412	Guar gum	Emulsifier, Stabilizer, Thickener	1999	CS 105-1981, CS 70-1981 (for use in packing media only), CS 94-1981 (for use in packing media only), CS 119-1981 (for use in packing media only), CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973
414	Gum arabic (Acacia gum)	Bulking agent, Carrier, Emulsifier, Glazing agent, Stabilizer, Thickener	1999	CS 87-1981, CS 105-1981, CS 249-2006
419	Gum ghatti	Carrier, Emulsifier, Stabilizer, Thickener	2019	CS 243-2003, CS 256-2007, CS 296-2009
507	Hydrochloric acid	Acidity regulator	1999	CS 98-1981, CS 13-1981, CS 57-1981, CS 221-2001, CS 273-1968, CS 275-1973
463	Hydroxypropyl cellulose	Emulsifier, Foaming agent, Glazing agent, Stabilizer, Thickener	1999	
1442	Hydroxypropyl distarch phosphate	Anticaking agent, Emulsifier, Stabilizer, Thickener	1999	CS 70-1981, CS 94-1981, CS 119-1981, CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973
464	Hydroxypropyl methyl cellulose	Bulking agent, Emulsifier, Glazing agent, Stabilizer, Thickener	1999	
1440	Hydroxypropyl starch	Emulsifier, Stabilizer, Thickener	1999	CS 70-1981, CS 94-1981, CS 119-1981, CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973

¹ This column only lists commodity standards that allow specific Table 3 additives. If a commodity standard allows Table 3 additives on a general basis or based on functional class, that information is contained in the "References to Commodity Standards for GSFA Table 3 Additives"

INS No	Additive	Functional Class	Year Adopted	Specific allowance in the following commodity standards ¹
630	Inosinic acid, 5'-	Flavour enhancer	1999	CS 302-2011
953	Isomalt (Hydrogenated isomaltulose)	Anticaking agent, Bulking agent, Flavour enhancer, Glazing agent, Stabilizer, Sweetener, Thickener	1999	CS 87-1981, CS 105-1981
416	Karaya gum	Emulsifier, Stabilizer, Thickener	1999	CS 105-1981, CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973
425	Konjac flour	Carrier, Emulsifier, Gelling agent, Glazing agent, Humectant, Stabilizer, Thickener	1999	
270	Lactic acid, L-, D- and DL-	Acidity regulator	1999	CS 70-1981, CS 94-1981, CS 119-1981, CS 249-2006, CS 208-1999, CS 221-2001, CS 273-1968, CS 275-1973
472b	Lactic and fatty acid esters of glycerol	Emulsifier, Sequestrant, Stabilizer	1999	CS 275-1973
966	Lactitol	Emulsifier, Sweetener, Thickener	1999	CS 87-1981, CS 105-1981
322(i)	Lecithin	Antioxidant, Emulsifier, Flour treatment agent	1999	CS 87-1981, CS 105-1981, CS 141-1983, CS 249-2006, CS 250-2006, CS 251-2006, CS 252-2006, CS 275-1973
322(ii)	Lecithin, partially hydrolysed	Antioxidant, Emulsifier	2021	CS 87-1981, CS 105-1981, CS 141-1983, CS 249-2006
1104	Lipases	Flavour enhancer	1999	
161b(iii)	Lutein esters from <i>Tagetes erecta</i>	Colour	2018	CS 87-1981 (for use in surface decoration only)
161b(i)	Lutein from <i>Tagetes erecta</i>	Colour	2021	CS 87-1981 (for use in surface decoration only)
160d(iii)	Lycopene, <i>Blakeslea trispora</i>	Colour	2012	
160d(i)	Lycopene, synthetic	Colour	2012	
160d(ii)	Lycopene, tomato	Colour	2012	

¹ This column only lists commodity standards that allow specific Table 3 additives. If a commodity standard allows Table 3 additives on a general basis or based on functional class, that information is contained in the "References to Commodity Standards for GSFA Table 3 Additives"

INS No	Additive	Functional Class	Year Adopted	Specific allowance in the following commodity standards ¹
504(i)	Magnesium carbonate	Acidity regulator, Anticaking agent, Colour retention agent, Flour treatment agent	1999	CS 87-1981, CS 105-1981, CS 141-1983, CS 263-1966, CS 264- 1966, CS 265-1966, CS 266-1966, CS 267-1966, CS 268-1966, CS 269- 1967, CS 270-1968, CS 271-1968, CS 272- 1968 (for use in cheese mass only for these standards), CS 251-2006, CS 273-1968, CS 275-1973, CS 283-1978
511	Magnesium chloride	Colour retention agent, Firming agent, Stabilizer	1999	
625	Magnesium di-L-glutamate	Flavour enhancer	1999	
580	Magnesium gluconate	Acidity regulator, Firming agent, Flavour enhancer	1999	CS 57-1981
528	Magnesium hydroxide	Acidity regulator, Colour retention agent	1999	CS 87-1981, CS 105-1981, CS 141-1983
504(ii)	Magnesium hydroxide carbonate	Acidity regulator, Anticaking agent, Carrier, Colour retention agent	1999	CS 275-1973, CS 283-1978, CS 273-1968
329	Magnesium lactate, DL-	Acidity regulator, Flour treatment agent	1999	
530	Magnesium oxide	Acidity regulator, Anticaking agent	1999	CS 87-1981, CS 105-1981, CS 141-1983, CS 251-2006
553(i)	Magnesium silicate, synthetic	Anticaking agent	1999	CS 105-1981, CS 251-2006
470(iii)	Magnesium stearate	Anticaking agent, Emulsifier, Thickener	2016	
518	Magnesium sulfate	Firming agent, Flavour enhancer	2009	
296	Malic acid, DL-	Acidity regulator, Sequestrant	1999	CS 302-2011, CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973
965(i)	Maltitol	Bulking agent, Emulsifier, Humectant, Stabilizer, Sweetener, Thickener	1999	CS 87-1981, CS 105-1981
965(ii)	Maltitol syrup	Bulking agent, Emulsifier, Humectant, Stabilizer, Sweetener, Thickener	1999	CS 87-1981, CS 105-1981
421	Mannitol	Anticaking agent, Bulking agent, Humectant, Stabilizer, Sweetener, Thickener	1999	CS 87-1981, CS 105-1981
1205	Methacrylate copolymer, basic (BMC)	Carrier, Glazing agent	2021	CS 117-1981

¹ This column only lists commodity standards that allow specific Table 3 additives. If a commodity standard allows Table 3 additives on a general basis or based on functional class, that information is contained in the "References to Commodity Standards for GSFA Table 3 Additives"

INS No	Additive	Functional Class	Year Adopted	Specific allowance in the following commodity standards ¹
461	Methyl cellulose	Bulking agent, Emulsifier, Glazing agent, Stabilizer, Thickener	1999	
465	Methyl ethyl cellulose	Emulsifier, Foaming agent, Stabilizer, Thickener	1999	
460(i)	Microcrystalline cellulose (Cellulose gel)	Anticaking agent, Bulking agent, Carrier, Emulsifier, Foaming agent, Glazing agent, Stabilizer, Thickener	1999	CS 105-1981, CS 263-1966, CS 264-1966, CS 265-1966, CS 266-1966, CS 267-1966, CS 268-1966, CS 269-1967, CS 270-1968, CS 271-1968, CS 272-1968 (for surface treatment only, of sliced, cut, shredded or grated cheese for these cheese standards), CS 221-2001, CS 283-1978 (for use in sliced, cut, shredded or grated cheese only)
471	Mono- and di-glycerides of fatty acids	Antifoaming agent, Emulsifier, Glazing agent, Stabilizer	1999	CS 87-1981, CS 105-1981, CS 141-1983, CS 249-2006, CS 251-2006, CS 275-1973
624	Monoammonium L-glutamate	Flavour enhancer	1999	
622	Monopotassium L-glutamate	Flavour enhancer	1999	
621	Monosodium L-glutamate	Flavour enhancer	1999	CS 89-1981, CS 96-1981, CS 97-1981, CS 98-1981, CS 90-1981, CS 302-2011, CS 249-2006
1410	Monostarch phosphate	Emulsifier, Stabilizer, Thickener	1999	CS 70-1981, CS 94-1981, CS 119-1981, CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973
941	Nitrogen	Foaming agent, Packaging gas, Propellant	1999	CS 221-2001 (for whipped products only), CS 275-1973
942	Nitrous oxide	Antioxidant, Foaming agent, Packaging gas, Propellant	1999	
423	Octenyl succinic acid (OSA) modified gum arabic	Emulsifier	2018	CS 13-1981, CS 66-1981, CS 254-2007
1404	Oxidized starch	Emulsifier, Stabilizer, Thickener	1999	CS 105-1981, CS 70-1981, CS 94-1981, CS 119-1981, CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973
1101(ii)	Papain	Flavour enhancer	1999	

¹ This column only lists commodity standards that allow specific Table 3 additives. If a commodity standard allows Table 3 additives on a general basis or based on functional class, that information is contained in the "References to Commodity Standards for GSFA Table 3 Additives"

INS No	Additive	Functional Class	Year Adopted	Specific allowance in the following commodity standards ¹
440	Pectins	Emulsifier, Gelling agent, Glazing agent, Stabilizer, Thickener	1999	CS 87-1981, CS 70-1981 (for use in packing media only), CS 94-1981 (for use in packing media only), CS 119-1981 (for use in packing media only), CS 249-2006, CS 221-2001, CS 273-1968
1413	Phosphated distarch phosphate	Emulsifier, Stabilizer, Thickener	1999	CS 70-1981, CS 94-1981, CS 119-1981, CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973
1200	Polydextroses	Bulking agent, Glazing agent, Humectant, Stabilizer, Thickener	1999	CS 87-1981, CS 105-1981
964	Polyglycitol syrup	Sweetener	2001	
1202	Polyvinylpyrrolidone, insoluble	Colour retention agent, Stabilizer	1999	
632	Potassium 5'-inosinate	Flavour enhancer	1999	
261(i)	Potassium acetate	Acidity regulator, Preservative	1999	CS 273-1968, CS 275-1973
402	Potassium alginate	Bulking agent, Carrier, Emulsifier, Foaming agent, Gelling agent, Glazing agent, Humectant, Sequestrant, Stabilizer, Thickener	1999	CS 96-1981, CS 97-1981, CS 70-1981 (for use in packing media only), CS 94-1981 (for use in packing media only), CS 119-1981 (for use in packing media only), CS 221-2001, CS 273-1968, CS 275-1973
501(i)	Potassium carbonate	Acidity regulator, Stabilizer	1999	CS 87-1981, CS 105-1981, CS 141-1983, CS 249-2006, CS 221-2001, CS 250-2006, CS 251-2006, CS 252-2006, CS 273-1968, CS 275-1973
508	Potassium chloride	Firming agent, Flavour enhancer, Stabilizer, Thickener	1999	CS 88-1981, CS 89-1981, CS 96-1981, CS 97-1981, CS 98-1981, CS 249-2006, CS 250-2006, CS 251-2006, CS 252-2006
332(i)	Potassium dihydrogen citrate	Acidity regulator, Emulsifying salt, Sequestrant, Stabilizer	1999	CS 13-1981, CS 57-1981, CS 302-2011, CS 250-2006, CS 251-2006, CS 252-2006, CS 275-1973, CS 221-2001, CS 250-2006, CS 251-2006, CS 252-2006, CS 273-1968, CS 275-1973
577	Potassium gluconate	Acidity regulator, Sequestrant	1999	CS 13-1981, CS 57-1981, CS 273-1968, CS 275-1973

¹ This column only lists commodity standards that allow specific Table 3 additives. If a commodity standard allows Table 3 additives on a general basis or based on functional class, that information is contained in the "References to Commodity Standards for GSFA Table 3 Additives"

INS No	Additive	Functional Class	Year Adopted	Specific allowance in the following commodity standards ¹
501(ii)	Potassium hydrogen carbonate	Acidity regulator, Raising agent, Stabilizer	1999	CS 87-1981, CS 105-1981, CS 141-1983, CS 221-2001, CS 250-2006, CS 251-2006, CS 252-2006, CS 273-1968, CS 275-1973
525	Potassium hydroxide	Acidity regulator	1999	CS 87-1981, CS 105-1981, CS 141-1983
326	Potassium lactate	Acidity regulator, Antioxidant, Emulsifier, Humectant	1999	CS 273-1968, CS 275-1973
283	Potassium propionate	Preservative	1999	CS 221-2001, CS 273-1968, CS 275-1973
515(i)	Potassium sulfate	Acidity regulator	1999	CS 13-1981, CS 57-1981
460(ii)	Powdered cellulose	Anticaking agent, Bulking agent, Emulsifier, Glazing agent, Humectant, Stabilizer, Thickener	1999	CS 105-1981, CS 263-1966, CS 264-1966, CS 265-1966, CS 266-1966, CS 267-1966, CS 268-1966, CS 269-1967, CS 270-1968, CS 271-1968, CS 272-1968 (for surface treatment only, of sliced, cut, shredded or grated cheese for these cheese standards), CS 221-2001, CS 283-1978 (for use in sliced, cut, shredded or grated cheese only)
407a	Processed eucheuma seaweed (PES)	Bulking agent, Carrier, Emulsifier, Gelling agent, Glazing agent, Humectant, Stabilizer, Thickener	2001	CS 70-1981 (for use in packing media only), CS 94-1981 (for use in packing media only), CS 119-1981 (for use in packing media only), CS 249-2006, CS 250-2006, CS 252-2006, CS 273-1968, CS 275-1973
280	Propionic acid	Preservative	1999	CS 221-2001, CS 273-1968, CS 275-1973
1101(i)	Protease from <i>Aspergillus oryzae</i> var.	Flavour enhancer, Flour treatment agent, Stabilizer	1999	
1204	Pullulan	Glazing agent, Thickener	2009	
470(i)	Salts of myristic, palmitic and stearic acids with ammonia, calcium, potassium and sodium	Anticaking agent, Emulsifier, Stabilizer	1999	CS 275-1973
470(ii)	Salts of oleic acid with calcium, potassium and sodium	Anticaking agent, Emulsifier, Stabilizer	1999	CS 275-1973
551	Silicon dioxide, amorphous	Anticaking agent, Antifoaming agent, Carrier	1999	CS 105-1981, CS 251-2006

¹ This column only lists commodity standards that allow specific Table 3 additives. If a commodity standard allows Table 3 additives on a general basis or based on functional class, that information is contained in the "References to Commodity Standards for GSFA Table 3 Additives"

INS No	Additive	Functional Class	Year Adopted	Specific allowance in the following commodity standards ¹
262(i)	Sodium acetate	Acidity regulator, Preservative, Sequestrant	1999	CS 249-2006, CS 275-1973, CS 273-1968
401	Sodium alginate	Bulking agent, Carrier, Emulsifier, Foaming agent, Gelling agent, Glazing agent, Humectant, Sequestrant, Stabilizer, Thickener	1999	CS 96-1981, CS 97-1981, CS 70-1981 (for use in packing media only), CS 94-1981 (for use in packing media only), CS 119-1981 (for use in packing media only), CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973
301	Sodium ascorbate	Antioxidant, Flour treatment agent	1999	CS 88-1981, CS 89-1981, CS 96-1981, CS 97-1981, CS 98-1981, CS 251-2006, CS 275-1973
500(i)	Sodium carbonate	Acidity regulator, Anticaking agent, Emulsifying salt, Raising agent, Stabilizer, Thickener	1999	CS 87-1981, CS 105-1981, CS 141-1983, CS 249-2006, CS 221-2001, CS 250-2006, CS 251-2006, CS 252-2006, CS 273-1968, CS 275-1973
466	Sodium carboxymethyl cellulose (Cellulose gum)	Bulking agent, Emulsifier, Firming agent, Gelling agent, Glazing agent, Humectant, Stabilizer, Thickener	1999	CS 105-1981, CS 70-1981 (for use in packing media only), CS 94-1981 (for use in packing media only), CS 119-1981 (for use in packing media only), CS 302-2011, CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973
469	Sodium carboxymethyl cellulose, enzymatically hydrolysed (Cellulose gum, enzymatically hydrolyzed)	Stabilizer, Thickener	2001	
331(i)	Sodium dihydrogen citrate	Acidity regulator, Emulsifier, Emulsifying salt, Sequestrant, Stabilizer	1999	CS 89-1981, CS 96-1981, CS 97-1981, CS 98-1981, CS 13-1981, CS 57-1981, CS 302-2011, CS 221-2001, CS 250-2006, CS 251-2006, CS 252-2006, CS 273-1968, CS 275-1973
350(ii)	Sodium DL-malate	Acidity regulator, Humectant	1999	CS 302-2011, CS 249-2006, CS 273-1968, CS 275-1973
316	Sodium erythorbate (Sodium isoascorbate)	Antioxidant	1999	CS 88-1981, CS 89-1981, CS 96-1981, CS 97-1981, CS 98-1981
365	Sodium fumarates	Acidity regulator	1999	CS 249-2006
576	Sodium gluconate	Sequestrant, Stabilizer, Thickener	1999	CS 221-2001

¹ This column only lists commodity standards that allow specific Table 3 additives. If a commodity standard allows Table 3 additives on a general basis or based on functional class, that information is contained in the "References to Commodity Standards for GSFA Table 3 Additives"

INS No	Additive	Functional Class	Year Adopted	Specific allowance in the following commodity standards ¹
500(ii)	Sodium hydrogen carbonate	Acidity regulator, Anticaking agent, Raising agent, Stabilizer, Thickener	1999	CS 87-1981, CS 105-1981, CS 141-1983, CS 249-2006, CS 221-2001, CS 250-2006, CS 251-2006, CS 252-2006, CS 273-1968, CS 275-1973
350(i)	Sodium hydrogen DL-malate	Acidity regulator, Humectant	1999	CS 98-1981, CS 302-2011, CS 273-1968, CS 275-1973
514(ii)	Sodium hydrogen sulfate	Acidity regulator	2012	
524	Sodium hydroxide	Acidity regulator	1999	CS 87-1981, CS 105-1981, CS 141-1983
325	Sodium lactate	Acidity regulator, Antioxidant, Bulking agent, Emulsifier, Emulsifying salt, Humectant, Thickener	1999	CS 302-2011, CS 249-2006, CS 273-1968, CS 275-1973
281	Sodium propionate	Preservative	1999	CS 221-2001, CS 273-1968, CS 275-1973
500(iii)	Sodium sesquicarbonate	Acidity regulator, Anticaking agent, Raising agent	1999	CS 221-2001, CS 250-2006, CS 251-2006, CS 252-2006, CS 273-1968, CS 275-1973
514(i)	Sodium sulfate	Acidity regulator	2001	CS 13-1981, CS 57-1981
420(i)	Sorbitol	Bulking agent, Humectant, Sequestrant, Stabilizer, Sweetener, Thickener	1999	CS 87-1981, CS 105-1981, CS 249-2006
420(ii)	Sorbitol syrup	Bulking agent, Humectant, Sequestrant, Stabilizer, Sweetener, Thickener	1999	CS 87-1981, CS 105-1981, CS 249-2006
1420	Starch acetate	Emulsifier, Stabilizer, Thickener	1999	CS 70-1981, CS 94-1981, CS 119-1981, CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973
1450	Starch sodium octenyl succinate	Emulsifier, Stabilizer, Thickener	1999	CS 249-2006
1405	Starches, enzyme treated	Emulsifier, Stabilizer, Thickener	1999	CS 105-1981, CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973
553(iii)	Talc	Anticaking agent, Glazing agent, Thickener	1999	CS 105-1981, CS 251-2006
437	Tamarind seed polysaccharide	Emulsifying salt, Gelling agent, Stabilizer, Thickener	2019	CS 309R-2011, CS 94-1981, CS 119-1981, CS 243-2003, CS 249-2006, CS 256-2007, CS 273-1968 (in cheese mass only), CS 275-1973 (in cheese mass only), CS 288-1976, CS 296-2009

¹ This column only lists commodity standards that allow specific Table 3 additives. If a commodity standard allows Table 3 additives on a general basis or based on functional class, that information is contained in the "References to Commodity Standards for GSFA Table 3 Additives"

INS No	Additive	Functional Class	Year Adopted	Specific allowance in the following commodity standards ¹
417	Tara gum	Gelling agent, Stabilizer, Thickener	1999	CS 105-1981, CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973
957	Thaumatococcus	Flavour enhancer, Sweetener	1999	CS 87-1981, CS 105-1981
171	Titanium dioxide	Colour	1999	CS 272-1968 (for use in cheese mass only for these standards), CS 221-2001, CS 275-1973, CS 283-1978
413	Tragacanth gum	Emulsifier, Stabilizer, Thickener	1999	CS 105-1981, CS 70-1981 (for use in packing media only), CS 94-1981 (for use in packing media only), CS 119-1981 (for use in packing media only), CS 221-2001, CS 273-1968, CS 275-1973
1518	Triacetin	Carrier, Emulsifier, Humectant	1999	
380	Triammonium citrate	Acidity regulator	1999	CS 13-1981, CS 57-1981
333(iii)	Tricalcium citrate	Acidity regulator, Antioxidant, Emulsifying salt, Firming agent, Sequestrant, Stabilizer	1999	CS 57-1981, CS 221-2001, CS 250-2006, CS 252-2006, CS 273-1968, CS 275-1973
332(ii)	Tripotassium citrate	Acidity regulator, Antioxidant, Emulsifying salt, Sequestrant, Stabilizer	1999	CS 13-1981, CS 57-1981, CS 302-2011, CS 221-2001, CS 250-2006, CS 251-2006, CS 252-2006
331(iii)	Trisodium citrate	Acidity regulator, Emulsifier, Emulsifying salt, Sequestrant, Stabilizer	1999	CS 89-1981, CS 96-1981, CS 97-1981, CS 98-1981, CS 13-1981, CS 57-1981, CS 302-2011, CS 249-2006, CS 221-2001, CS 250-2006, CS 251-2006, CS 252-2006
415	Xanthan gum	Emulsifier, Foaming agent, Stabilizer, Thickener	1999	CS 105-1981, CS 70-1981 (for use in packing media only), CS 94-1981 (for use in packing media only), CS 119-1981 (for use in packing media only), CS 249-2006, CS 221-2001, CS 273-1968, CS 275-1973
967	Xylitol	Emulsifier, Humectant, Stabilizer, Sweetener, Thickener	1999	CS 87-1981, CS 105-1981
161h(i)	Zeaxanthin, synthetic	Colour	2021	CS 87-1981 (for use in surface decoration only)

¹ This column only lists commodity standards that allow specific Table 3 additives. If a commodity standard allows Table 3 additives on a general basis or based on functional class, that information is contained in the "References to Commodity Standards for GSFA Table 3 Additives"

INS No	Additive	Functional Class	Year Adopted	Specific allowance in the following commodity standards ¹
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Explanatory Note: Determining the Use of Table 3 Additives in Foods Covered by Commodity Standards based on the Revised Approach

- If a commodity standard covers the use of foods in food categories that are contained in the Annex to Table 3, then Table 3 does not apply to the commodity standard.
- All food additive permissions for foods covered by food categories listed in the Annex to Table 3 must be listed in Tables 1 and 2 of the GSFA.
- If a commodity standard covers a food category that is not listed in the Annex to Table 3, then the user should refer to the “References to Commodity Standards for GSFA Table 3 Additives” section of Table 3.
- If the section specific to the commodity standard indicates that all Table 3 additives are permitted for use in foods covered by the standard, then any food additives listed in Table 3 may be used in foods covered by the standard.
- If the text indicates that only Table 3 additives with specific functional classes may be used (e.g. acidity regulator), then any Table 3 additive listing the noted functional class in column 3 of Table 3 may be used in foods covered by the commodity standard.
- If the text indicates that “only certain Table 3 food additives (as indicated in Table 3)” are permitted for use in foods covered by the commodity standard, then the user may refer to column 5 of Table 3 where the commodity standard number will be listed for the particular Table 3 food additives that are permitted for use in the commodity standard.

¹ This column only lists commodity standards that allow specific Table 3 additives. If a commodity standard allows Table 3 additives on a general basis or based on functional class, that information is contained in the “References to Commodity Standards for GSFA Table 3 Additives”

ANNEX TO TABLE THREE**Food Categories or Individual Food Items Excluded from the General Conditions of Table Three**

The use of additives listed in Table Three in the following foods is governed by the provisions in Tables One and Two.

Category Number	Food Category
01.1.1	Fluid milk (plain)
01.1.2	Other fluid milk (plain)
01.1.3	Fluid buttermilk (plain)
01.2	Fermented and renneted milk products (plain) ¹
01.4.1	Pasteurized cream (plain)
01.4.2	Sterilized and UHT creams, whipping or whipped creams, and reduced fat creams (plain)
01.6.3	Whey cheese
01.6.6	Whey protein cheese
01.8.2	Dried whey and whey products, excluding whey cheese
02.1	Fats and oils essentially free from water
02.2.1	Butter
04.1.1	Fresh fruit
04.2.1	Fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds
04.2.2.1	Frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweed products, excluding fermented soybean products of food categories 06.8.6, 06.8.7, 12.9.1, 12.9.2.1 and 12.9.2.3
06.1	Whole, broken or flaked grain, including rice
06.2	Flours and starches (including soybean powder)
06.4.1	Fresh pastas and noodles and like products
06.4.2	Dried pastas and noodles and like products
08.1	Fresh meat, poultry, and game
09.1	Fresh fish and fish products, including molluscs, crustaceans and echinoderms
09.2	Processed fish and fish products, including molluscs, crustaceans and echinoderms
10.1	Fresh eggs
10.2.1	Liquid egg products
10.2.2	Frozen egg products
11.1	Refined and raw sugars
11.2	Brown sugar, excluding products of food category 11.1.3 (soft white sugar, soft brown sugar, glucose syrup, dried glucose syrup, raw cane sugar)
11.3	Sugar solutions and syrups, also (partially) inverted, including treacle and molasses, excluding products of food category 11.1.3 (soft white sugar, soft brown sugar, glucose syrup, dried glucose syrup, raw cane sugar)
11.4	Other sugars and syrups (e.g., xylose, maple syrup, sugar toppings)
11.5	Honey
12.1	Salt and salt substitutes
12.2.1	Herbs and spices (EXCLUDING SPICES)
13.1	Infant formulae, follow-up formulae, and formulae for special medical purposes for infants
13.2	Complementary foods for infants and young children
14.1.1	Waters
14.1.2	Fruit and vegetable juices
14.1.3	Fruit and vegetable nectars
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal beverages, excluding cocoa
14.2.3	Grape wines

¹ Acidity regulators, packaging gases, stabilizers and thickeners listed in Table 3 are acceptable for use in fermented milks, heat treated after fermentation, as defined in the *Standard for Fermented Milks* (CODEX STAN 243-2004) that correspond to food category 01.2.1.2 "Fermented milks (plain), heat treated after fermentation".

References to Commodity Standards for GSFA Table 3 Additives²

01.3.2	Beverage whiteners
	Only certain Table 3 additives (as indicated in Table 3) are acceptable for use in foods conforming to these standards
Codex standards	Blend of Evaporated Skimmed Milk and Vegetable Fat (CXS 250-2006), Blend of Sweetened Condensed Skimmed Milk and Vegetable Fat (CXS 252-2006)

01.5.2	Milk and cream powder analogues
	Only certain Table 3 additives (as indicated in Table 3) are acceptable for use in foods conforming to this standard
Codex standards	Blend of Skimmed Milk and Vegetable Fat in Powdered Form (CXS 251-2006)

01.6.1	Unripened Cheese
	Only certain Table 3 additives (as indicated in Table 3) are acceptable for use in foods conforming to this standard
Codex standards	Unripened Cheese including Fresh Cheese (CXS 221-2001), Cottage Cheese (CXS 273-1968), Cream Cheese (CXS 275-1973)

01.6.2.1	Ripened Cheese, includes rind
	Only certain acidity regulators, anticaking agents, colours and preservatives in Table 3 (as indicated in Table 3) are acceptable for use in foods conforming to CXS 283-1978, and only certain acidity regulators in Table 3 (as indicated in Table 3) are acceptable for use in foods conforming to CXS 208-1999.
Codex standards	Cheeses in Brine (CXS 208-1999) General Standard for Cheese (CXS 283-1978)

01.6.2.1	Ripened Cheese, includes rind
	Only certain Table 3 additives (as indicated in Table 3) are acceptable for use in foods conforming to these standards. Acidity regulators are only acceptable for use in the cheese mass. Colours are only for use in the cheese mass to obtain the colour characteristics as described in Section 2 of the commodity standard. Anticaking agents are only justified for the surface treatment of sliced, cut, shredded or grated cheese.
Codex standards	Cheddar (CXS 263-1966), Danbo (CXS 264-1966), Edam (CXS 265-1966), Gouda (CXS 266-1966), Havarti (CXS 267-1966), Samsø (CXS 268-1966), Emmental (CXS 269-1967) Tilsiter (CXS 270-1968), Saint-Paulin (CXS 271-1968), Provolone (CXS 272-1968), Coulommiers (CXS 274-1969), Camembert (CXS 276-1973) and Brie (CXS 277-1973)

02.2.2	Fat spreads, dairy fat spreads and blended spreads
	Acidity regulators, antifoaming agents, antioxidants, colours, emulsifiers, flavour enhancers, packaging gases, preservatives, stabilizers and thickeners listed in Table 3 are acceptable for use in foods conforming to the standard.
Codex standards	Fat Spreads and Blended Spreads (CXS 256-2007)

04.1.2.4	Canned or bottled (pasteurized) fruit
	Acidity regulators listed in Table 3 are acceptable for use in all products conforming to the standard. Antioxidants and firming agents listed in Table 3 are acceptable for use in canned mangoes conforming to the standard. Colours listed in Table 3 are acceptable for

² This Section only lists commodity standards where the corresponding GSFA Food Category is not listed in the Annex to Table 3. Provisions for the use of specific Table 3 additives in commodity standards where the corresponding GSFA Food Category is listed in the Annex to Table 3 can be found in the corresponding Food Categories in Tables 1 and 2. Be aware that the process to align food-additive provisions in commodity standards with the GSFA is a work in progress, and as a result not all commodity standards are yet listed in this Section.

	use in special holiday pack canned pears conforming to the standard. Only certain Table 3 antioxidants (as indicated in Table 3) are acceptable for use in canned pineapples conforming to the standard.
Codex Standard	Certain Canned Fruits (CODEX STAN 319-2015)

04.1.2.4	Canned or bottled (pasteurized) fruit
	Acidity regulators and firming agents listed in Table 3 are acceptable for use in foods conforming to the standard.
Codex standard	Certain canned citrus fruits (CODEX STAN 254-2007)

04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweeds in vinegar, oil, brine or soybean sauce
	Acidity regulators, antioxidants, colour retention agents (table olives darkened with oxidation only), firming agents, flavour enhancers, preservatives, and thickeners (table olives with stuffing only) listed in Table 3 are acceptable for use in foods conforming to the standard.
Codex standard	Table olives (CODEX STAN 66-1981)

04.2.2.4	Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds
	Firming agents listed in Table 3 and certain other Table 3 additives (as indicated in Table 3) are acceptable for use in foods conforming to the standards.
Codex standards	Preserved Tomatoes (CODEX STAN 13-1981)
	Only certain Table 3 food additives (as indicated in Table 3) are acceptable for use in foods conforming to the standard.
Codex standards	Processed tomato concentrates (CODEX STAN 57-1981)

04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter))
	Only certain Table 3 food additives (as indicated in Table 3) are acceptable for use in foods conforming to these standards.
Codex standards	Processed tomato concentrates (CODEX STAN 57-1981)

04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g., vegetable deserts and sauces, candied vegetables) other than food category 04.2.2.5)
	Only certain Table 3 food additives (as indicated in Table 3) are acceptable for use in foods conforming to these standards.
Codex standards	Processed tomato concentrates (CODEX STAN 57-1981)

05.1.1	Cocoa mixes (powders) and cocoa mass/cake
	Only certain Table 3 food additives (as indicated in Table 3) are acceptable for use in foods conforming to these standards.
Codex standards	Cocoa powders (cocoas) and dry mixtures of cocoa and sugars (CODEX STAN 105-1981) and Cocoa (cocoa) mass (cocoa/chocolate liquor) and cocoa cake (CODEX STAN 141-1983)

05.1.4	Cocoa and chocolate products
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	Only certain Table 3 food additives (as indicated in Table 3) are acceptable for use in foods conforming to this Standard.
Codex standards	Chocolate and chocolate products (CODEX STAN 87-1981)
05.2.2	Soft candy
	Acidity regulators and emulsifiers listed in Table 3 are acceptable for use in foods conforming to this Standard.
Codex standards	Halwa tehenia (CODEX STAN 309R-2011) (regional standard)
06.4.3	Pre-cooked pastas and noodles and like products
	Only certain Table 3 food additives (as indicated in Table 3) are acceptable for use in foods conforming to this Standard.
Codex standards	Instant Noodles (CXS 249-2006)
06.8.8	Other soybean protein products
	Food additives are not permitted in products conforming to this standard.
Codex standards	Soy Protein Products (CXS 175-1989)
08.2.2	Heat-treated processed meat, poultry, and game products in whole pieces or cuts
	Only certain Table 3 food additives (as indicated in Table 3) are acceptable for use in foods conforming to these standards.
Codex standards	Cooked cured ham (CODEX STAN 96-1981) and Cured pork shoulder (CODEX STAN 97-1981)
08.3.2	Heat-treated processed comminuted meat, poultry, and game products
	Only certain Table 3 food additives (as indicated in Table 3) are acceptable for use in foods conforming to these standards.
Codex standards	Corned beef (CODEX STAN 88-1981), Luncheon meat (CODEX STAN 89-1981), and Cooked cured chopped meat (CODEX STAN 98-1981)
09.3.3	Salmon substitutes, caviar, and other fish roe products
	Acidity regulators, antioxidants and preservatives listed in Table 3 are acceptable for use in foods conforming to this standard.
Codex standard	Sturgeon Caviar (CODEX STAN 291-2010)
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms
	Only certain Table 3 food additives (as indicated in Table 3) are acceptable for use in foods conforming to these standards.
Codex standards	Canned Shrimps or Prawns (CODEX STAN 37-1991) Canned Tuna and Bonito (CODEX STAN 70-1981) Canned Crab Meat (CODEX STAN 90-1981) Canned Sardines and Sardine-Type Products (CODEX STAN 94-1981) Canned Finfish (CODEX STAN 119-1981)
12.2.1	Herbs and spices (EXCLUDING SPICES)
	Table 3 additives are not permitted for use in products conforming to this standard.
Codex Standards	Black, White and Green Peppers (CXS 326-2017)
	Anticaking agents listed in Table 3 are acceptable for use in ground cumin only, conforming to this standard.
Codex	Cumin (CXS 327-2017)

standards	
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12.5	Soups and broths
	Acidity regulators, anticaking agents (in dehydrated product only), antifoaming agents, antioxidants, colours, emulsifiers, flavour enhancers, humectants, packaging gases, preservatives, stabilizers, sweeteners, thickeners and only certain carriers and glazing agents listed in Table 3 are acceptable for use in foods conforming to the standard.
Codex Standard	Bouillons and consommés (CXS 117-1981)

12.6.4	Clear sauces (e.g. fish sauce)
	Only certain Table 3 food additives (as indicated in Table 3) are acceptable for use in foods conforming to this Standard.
Codex standard	Fish Sauce (CODEX STAN 302-2011)

12.10	Protein products other than from soybeans
	Food additives are not permitted in products conforming to this standard.
Codex standards	Wheat Protein Products Including Wheat Gluten (CXS 163-1987), Vegetable Protein Products (VPP) (CXS 174-1989)



**Toxic
Substance**

1.1 SCOPE

This Standard contains the main principles which are recommended by the Codex Alimentarius in dealing with contaminants and toxins in food and feed and lists the maximum levels and associated sampling plans of contaminants and natural toxicants in food and feed which are recommended by the Codex Alimentarius Commission (CAC) to be applied to commodities moving in international trade.

This Standard includes only maximum levels of contaminants and natural toxicants in feed in cases where the contaminant in feed can be transferred to food of animal origin and can be relevant for public health.

1.2 DEFINITION OF TERMS

1.2.1 General

The definitions for the purpose of the Codex Alimentarius, as mentioned in the Procedural Manual of the Codex Alimentarius Commission, are applicable to the *General Standard for Contaminants and Toxins in Food and Feed* (GSCTFF) and only the most important ones are repeated here. Some new definitions are introduced, where this seems warranted to obtain optimal clarity. When reference is made to foods, this also applies to animal feed, in those cases where this is appropriate.

1.2.2 Contaminant

Codex Alimentarius defines a contaminant as follows:

“Any substance not intentionally added to food or feed for food producing animals, which is present in such food or feed as a result of the production (including operations carried out in crop husbandry, animal husbandry and veterinary medicine), manufacture, processing, preparation, treatment, packing, packaging, transport or holding of such food or feed, or as a result of environmental contamination. The term does not include insect fragments, rodent hairs and other extraneous matter”.

This Standard applies to any substance that meets the terms of the Codex definition for a contaminant, including contaminants in feed for food-producing animals, except:

- 1) Contaminants having only food and feed quality significance (e.g. copper), but no public health significance, in the food(s) given that the standards elaborated within the Committee on Contaminants in Foods (CCCF) has the objective to protect public health.
- 2) Pesticide residues, as defined by the Codex definition that are within the terms of reference of the Committee on Pesticide Residues (CCPR).
- 3) Residues of veterinary drugs, as defined by the Codex definition, and residues of feed additives (*), that are within the terms of reference of the Committee on Residues of Veterinary Drugs in Foods (CCRVDF).
- 4) Microbial toxins, such as botulinum toxin and staphylococcus enterotoxin, and microorganisms that are within the terms of reference of the Committee on Food Hygiene (CCFH).
- 5) Residues of processing aids that are within the terms of reference of the Committee on Food Additives (CCFA (**).

- (*) Feed additives as defined in the *Code of Practice on Good Animal Feeding* (CXC 54-2004): “Any intentionally added ingredient not normally consumed as feed by itself, whether or not it has nutritional value, which affects the characteristics of feed or animal products.

Residues of feed additives include the parent compounds and/or their metabolites in any edible portion of the animal product and include residues of associated impurities of the feed additive concerned.

- (**) Processing aids are any substance or material, not including apparatus or utensils, and not consumed as a food ingredient by itself, intentionally used in the processing of raw materials, foods or its ingredients, to fulfil a certain technological purpose during treatment or processing and which may result in the non-intentional but unavoidable presence of residues or derivatives in the final product.

1.2.3 Natural toxins included in this Standard

The Codex definition of a contaminant implicitly includes naturally occurring toxicants including toxic metabolites of certain microfungi that are not intentionally added to food and feed (mycotoxins).

Toxins that are produced by algae and that may be accumulated in edible aquatic organisms such as shellfish (phycotoxins) are also included in this Standard. Mycotoxins and phycotoxins are both subclasses of contaminants.

Endogenous natural toxicants, such as e.g. solanine in potatoes, that are implicit constituents of food and feed resulting from a genus, species or strain ordinarily producing hazardous levels of a toxic metabolite(s), i.e. phytotoxins are not generally considered within the scope of this Standard. They are, however, within the terms of reference of CCCF and will be dealt with on a case-by-case basis.

1.2.4 Maximum level and related terms¹

The **Codex maximum level (ML)** for a contaminant in a food or feed commodity is the maximum concentration of that substance recommended by the Codex Alimentarius Commission to be legally permitted in that commodity.

1.3 PRINCIPLES REGARDING CONTAMINANTS IN FOOD AND FEED

1.3.1 General

Contamination of food and feed may pose a risk to human (and/or animal health). Moreover, in some cases they may also have a negative impact on the quality of the food or feed. Food and feed can become contaminated by various causes and processes.

Contaminant levels in food and feed shall be as low as reasonably achievable through best practice such as Good Agricultural Practice (GAP) and Good Manufacturing Practice (GMP) following an appropriate risk assessment. The following actions may serve to prevent or to reduce contamination of feed and food²:

- Preventing food and feed contamination at the source, e.g. by reducing environmental pollution.
- Applying appropriate technology control measure(s) in food and feed production, manufacture, processing, preparation, treatment, packing, packaging, transport or holding.
- Applying measures aimed at decontamination of contaminated feed or food and measures to prevent contaminated feed or food to be marketed for consumption.

To ensure that adequate action is taken to reduce contamination of food and feed a Code of Practice shall be elaborated comprising source related measures and Good Manufacturing Practice as well as Good Agricultural Practice in relation to the specific contamination problem.

The degree of contamination of food and feed and the effect of actions to reduce contamination shall be assessed by monitoring, survey programs and more specialized research programs, where necessary.

When there are indications that health hazards may be involved with consumption of food that is contaminated, it is necessary that a risk assessment should be undertaken. When health concerns can be substantiated, a risk management measure must be applied, based on a thorough evaluation of the situation and consideration of a range of risk management options. Depending on the assessment of the problems and the possible solutions, it may be necessary to establish MLs or other measures to control the contamination of food and feed. In special cases, specific advice on dietary recommendations may also have to be considered to complement other regulatory measures, when the measures are not sufficiently adequate to protect public health and safety.

National measures regarding food and feed contamination should avoid the creation of unnecessary barriers to international trade in food and feed commodities. The purpose of the GSCTFF is to provide guidance about possible approaches to eliminate or reduce the contamination problem and to promote international harmonization through recommendations, which in turn may prevent trade barriers and disputes.

For all contaminants, which may be present in more than one feed or food item, a broad approach shall be applied, considering all relevant information that is available, for the assessing of risks and for developing recommendations and control measures, including the setting of maximum levels.

¹ For the contaminants radionuclides, acrylonitrile and vinylchloride monomer a **Codex guideline level (GL)** has been established.

A **Codex guideline level (GL)** is the maximum level of a substance in a food or feed commodity which is recommended by the Codex Alimentarius Commission to be acceptable for commodities moving in international trade. When the GL is exceeded, governments should decide whether and under what circumstances the food should be distributed within their territory or jurisdiction.

Because the Commission has decided that the preferred format of a Codex standard in food or feed is a maximum level, the present existing or proposed guideline levels shall be reviewed for their possible conversion to a maximum level after a risk assessment performed by JECFA, if appropriate.

² In addition, reference is made to the *Code of Practice for source Directed measures to reduce contamination of food with chemicals* (CXC 49-2001) and the *Code of Practice on Good Animal Feeding* (CXC 54-2004).

1.3.2 Principles for establishing maximum levels in food and feed

MLs shall only be set for food in which the contaminant may be found in amounts that are significant for the total exposure of the consumer, taking into consideration the *Policy of the Committee on Contaminants in Foods for Exposure Assessment of Contaminants and Toxins in Foods or Food Groups* (Section IV of the Procedural Manual).

The maximum levels shall be set in such a way that the consumer is adequately protected. At the same time the other legitimate factors need to be considered. This will be performed in accordance with the *Working Principles for Risk Analysis for Food Safety for Application by Governments*.

The principles of Good Manufacturing Practice and Good Agricultural Practice as defined by Codex shall be used. Maximum levels shall be based on sound scientific principles leading to levels, which are acceptable worldwide, so that there is no unjustified barrier to international trade. MLs shall be clearly defined with respect to status and intended use.

1.3.3 Specific criteria

The following criteria should (not preventing the use of other relevant criteria) be considered when developing MLs and/or other measures in connection with the *General Standard for Contaminants and Toxins in Food and Feed* (Further details about these criteria are given in Annex I).

Toxicological information

- identification of the toxic substance(s);
- metabolism by humans and animals, as appropriate;
- toxicokinetics and toxicodynamics including information on possible carry-over of the toxic substance from feed to edible animal tissue/products;
- information about acute and long-term toxicity and other relevant toxicity data; and
- integrated toxicological expert advice regarding the acceptability and safety of intake levels of contaminants, including information on any population groups which are especially vulnerable.

Analytical data

- validated qualitative and quantitative data on representative samples; and
- appropriate sampling procedures.

Intake data

- presence in food of dietary significance for the contaminant;
- presence in food that are widely consumed;
- presence in feed and feed components;
- food intake data for average and most exposed/high consumer groups;
- results from total diet studies;
- calculated contaminant intake data from food consumption models;
- data on intake by susceptible groups; and
- data on intake by food producing animals.

Technological considerations

- Information about contamination processes, technological possibilities, production and manufacturing practices and economic aspects related to contaminant level management and control.

Risk assessment and risk management considerations (cf. *Working Principles for Risk Analysis for Food Safety for Application by Governments*)

- risk management options and considerations;
- consideration of possible maximum levels in food and feed based on the criteria mentioned above; and
- consideration of alternative solutions.

1.4 FORMAT OF THE GENERAL STANDARD FOR CONTAMINANTS IN FOOD AND FEED

A full description of the format is provided in Annex II.

CRITERIA FOR THE ESTABLISHMENT OF MAXIMUM LEVELS IN FOOD AND FEED

Introduction

In this Annex criteria are mentioned regarding information, which is considered necessary for evaluating contaminant problems in food and feed and for the establishment of maximum levels. The criteria mentioned here are elaborated in more detail than in Section 1.3.3 of the Preamble. Only those aspects that need further clarification are detailed; however, criteria or aspects that are not specifically detailed here should not be ruled out in the evaluation process.

Toxicological information

Integrated toxicological expert advice regarding a safe/tolerable intake level of a contaminant is essential when decisions about maximum levels in foods are considered. A recommendation from the Joint FAO/WHO Expert Committee on Food Additives (JECFA) regarding the maximum allowable or tolerable intake, based on a full evaluation of an adequate toxicological database, should be the main basis for decisions by Codex members. In urgent cases, it may be possible to rely on less developed evaluations from JECFA or on toxicological expert advice from other international or national bodies.

When toxicological information is presented in relation to proposals for maximum levels for contaminants in food and feed, information about the following aspects is desirable:

- identification of the toxic substance(s);
- metabolism in humans and animals, as appropriate;
- toxicokinetics and toxicodynamics including information on possible carry-over of the contaminant from feed to edible animal tissue/products;
- information about acute and long-term toxicity in animals and humans, including epidemiological data on humans and other relevant toxicity data;
- conclusions and advice of toxicological expert(s) (groups), with references, including information on especially vulnerable population groups or animals.

Analytical data

Validated qualitative and quantitative analytical data on representative samples should be supplied. Information on the analytical and sampling methods used and on the validation of the results is desirable. A statement on the representativeness of the samples for the contamination of the product in general (e.g. on a national basis) should be added. The portion of the commodity that was analyzed and to which the contaminant content is related should be clearly stated and preferably should be equivalent to the definition of the commodity for this purpose or to existing related contaminant regulation.

Information on appropriate sampling procedures should be supplied. Special attention to this aspect is necessary in the case of contaminants that may not be homogeneously distributed in the product (e.g. mycotoxins in some commodities).

Intake data

It is desirable to have information about the contaminant concentrations in those foods or food groups that (together) are responsible for at least half and preferably 80% or more of the total dietary intake of the contaminant, both for consumers with average and high consumption patterns.

Information about the **presence of the contaminant in foods that are widely consumed** (staple foods) is desirable in order to be able to make a satisfactory assessment of the contaminant intake and of risks associated with food trade.

For the contaminants, which can be present in food of animal origin as a consequence of the carry-over from feed, information about the presence of the contaminant in the feed and feed components should be given. Furthermore, the intake of contaminants by the different food producing animals and the resulting levels of the contaminant in the food of animal origin should be estimated.

Food consumption data for average, most exposed (high consumers) and susceptible consumer groups are desirable for evaluations of (potential) intake of contaminants. This problem, however, has to be addressed differently on a national and on an international scale. It is therefore important to have information about both average and high consumption patterns regarding a wide variety of foodstuffs, so that for every contaminant the most exposed consumer groups may be identified for every contaminant. Detailed information about high consumption patterns is desirable, both regarding group identification criteria (e.g. age or sex differences, vegetarian or regional dietary customs, etc.) and statistical aspects.

Dietary intake of contaminants: Reference is made to the *Guidelines for the Study of Dietary Intake of Chemical Contaminants* (WHO, 1985 - http://whqlibdoc.who.int/offset/WHO_OFFSET_87.pdf). It is important to supply all relevant details, such as the type of study (duplicate diet, total diet or market basket study, selective study), and statistical details. Calculated contaminant intake data from food consumption models may also be useful. When results about food groups and about effects of preparation and cooking etc. are available, these should also be supplied.

Technological considerations

Information about the source of the contaminant and the way in which the food and feed is contaminated, possibly including information, if available, about contamination being present in parts only of the product, is essential for assessing the possibilities to control the contamination process and to be able to guarantee a desired product safety and quality. Where possible **Source-related measures** should be proposed. **Good Manufacturing Practice (GMP)** and/or **Good Agricultural Practice (GAP)** should also be adapted to control a contamination problem. When this is possible, maximum levels may be based on GMP or GAP considerations to establish at a level as low as reasonably achievable and necessary to protect the consumer. Considerations regarding the technological possibilities to control a contamination problem, e.g. by cleaning, should also be considered when a primary risk assessment model (theoretical maximum daily intake) shows possible intakes exceeding the toxicological reference value. In such a case the possibilities of lower contamination levels need further careful examination. Then a detailed study about all the aspects involved is necessary, so that decisions about maximum levels can be based on a thorough evaluation of both the public health arguments and the potential problem with complying with the proposed standard.

Risk assessment and risk management considerations

Risk assessment and risk management are conducted in accordance with the *Working Principles for Risk Analysis for Food Safety for Application by Governments* (CXG 62-2007).

Establishment of maximum levels

In case it is decided that, on the basis of the outcome of the risk assessment, there is no need to establish a maximum level to protect public health as the level of hazard/risk does not pose a public health problem, this should be communicated in a transparent and accessible manner (e.g. by using the full format as provided for Schedule I and to mention in the box of Maximum level “not necessary”).

The **establishment of maximum levels (MLs) of contaminants in food and feed** involves several principles, some of which have already been mentioned in this Preamble. Briefly stated, the following criteria will help in maintaining a consistent policy in this matter:

- MLs should be set only for those contaminants that present both a significant risk to public health and a known or expected problem in international trade.
- MLs should be set only for food that is significant for the total exposure of the consumer to the contaminant. When identifying the significance of certain foods in the total exposure to the contaminant, the criteria contained in Section 3 of the *Policy of the Committee on Contaminants in Foods for Exposure Assessment of Contaminants and Toxins in Foods or Food Groups* (Section IV of the Procedural Manual) should be consulted.
- MLs should be set as low as reasonably achievable and at levels necessary to protect the consumer. Providing it is acceptable from the toxicological point of view, MLs should be set at a level which is (slightly) higher than the normal range of variation in levels in food and feed that are produced with current adequate technological methods, in order to avoid undue disruptions of food and feed production and trade. Where possible, MLs should be based on GMP and/or GAP considerations in which the health concerns have been incorporated as a guiding principle to achieve contaminant levels as low as reasonably achievable and necessary to protect the consumer. Foods that are evidently contaminated by local situations or processing conditions that can be avoided by reasonably achievable means shall be excluded in this evaluation, unless a higher ML can be shown to be acceptable from a public health point of view and significant economic aspects are at stake.
- Proposals for MLs in products should be based on data from various countries and sources, encompassing the main production areas/processes of those products, as far as they are engaged in international trade. When there is evidence that contamination patterns are sufficiently understood and will be comparable on a global scale, more limited data may be enough.
- MLs may be set for product groups when sufficient information is available about the contamination pattern for the whole group, or when there are other arguments that extrapolation is appropriate.

- Numerical values for MLs should preferably be regular figures in a geometric scale (0.01, 0.02, 0.05, 0.1, 0.2, 0.5, 1, 2, 5 etc.), unless this may pose problems in the acceptability of the MLs.
- MLs should apply to representative samples per lot. If necessary, appropriate methods of sampling should be specified.
- MLs should not be lower than a level which can be analyzed with methods of analysis that can readily be set up and applied in food and feed control laboratories, unless public health considerations necessitate a lower ML which can only be controlled by means of a more elaborate and sensitive method of analysis with an adequate lower detection limit. In all cases, a validated method of analysis should be available with which a ML can be controlled.
- The contaminant as it should be analyzed and to which the ML applies should be clearly defined. The definition may include important metabolites when this is appropriate from an analytical or toxicological point of view. It may also be aimed at indicator substances which are chosen from a group of related contaminants.
- The product as it should be analyzed and to which the ML applies, should be clearly defined. In general, MLs are set on primary products. MLs should in general preferably be expressed as a level of the contaminant related to the product as it is, on a fresh weight basis. In some cases, however, there may be valid arguments to prefer expression on a dry weight basis (this might be in particular the case for contaminants in feed) or on a fat weight basis (this might be in particular the case for fat soluble contaminants). Preferably the product should be defined as it moves in trade, with provisions where necessary for the removal of inedible parts that might interfere with the preparation and the analysis of the sample. The product definitions used by CCPR and contained in the *Classification of Food and Feed* (CXM 4-1989) may serve as guidance on this subject; other product definitions should only be used for specified reasons. For contaminant purposes, however, analysis and consequently MLs should preferably be on the basis of the edible part of the product.

For fat-soluble contaminants, which may accumulate in animal products, provisions should be applied regarding the application of the ML to products with various fat content (comparable to the provisions for fat soluble pesticides).

- Guidance is desirable regarding the possible application of MLs established for primary products to processed products and multi-ingredient products. When products are concentrated, dried or diluted, use of the concentration or dilution factor is generally appropriate in order to be able to obtain a primary judgement of the contaminant levels in these processed products. The maximum contaminant concentration in a multi-ingredient food and feed can likewise be calculated from the composition of the food and feed. Information regarding the behavior of the contaminant during processing (e.g. washing, peeling, extraction, cooking, drying etc.) is however desirable to give more adequate guidance. When contaminant levels are consistently different in processed products related to the primary products from which they are derived, and sufficient information is available about the contamination pattern, it may be appropriate to establish separate maximum levels for these processed products. This also applies when contamination may occur during processing. In general, however, MLs should preferably be set for primary agricultural products and may be applied to processed, derived and multi-ingredient food and feed by using appropriate conversion factors. When these factors are sufficiently known, they should be mentioned in the suffix to the maximum level following the format of list of MLs as defined in Annex II.
- MLs should preferably not be set higher than is acceptable in a primary (theoretical maximum intake and risk estimation) approach of their acceptability from a public health point of view. When this poses problems in relation to other criteria for establishing MLs, further evaluations are necessary regarding the possibilities to reduce the contaminant levels, e.g. by improving GAP and/or GMP conditions. When this does not bring a satisfactory solution, further refined risk assessment and contaminant risk management evaluations will have to be made in order to try to reach agreement about an acceptable ML.

Procedure for risk assessment in relation to (proposed) MLs

It is more difficult to control food and feed contamination problems than in the case of food additives and pesticide residues. Proposed MLs will inevitably be influenced by this situation. In order to promote acceptance of Codex MLs, it is therefore important that assessments of the impact of those MLs on dietary exposure are done in a consistent and realistic way. The procedure involves assessment of the dietary intake in relation to the proposed or existing MLs and the toxicological reference value.

In case a contaminant is carried over from feed to food of animal origin, the intake of a contaminant by the different food producing animal species and the resulting levels in the food of animal origin should be estimated.

The best estimate of dietary intake involves the national dietary pattern and corrections for concentration changes during transport, storage, food preparation, for known levels in foods as consumed, etc. Caution is recommended when using other than average food consumption values, although it is considered appropriate to use relevant average food consumption data for identifiable subgroups of the population. Food consumption patterns with a higher intake of critical foods may be used in the intake calculations when this is part of an accepted national or international health protection and risk management policy. A harmonized approach using an appropriate intake estimation model that is as realistic as possible is recommended. (cf. the *Policy of the Committee on Contaminants in Foods for Exposure Assessment of Contaminants and Toxins in Foods or Food Groups* - Section IV of the Procedural Manual). Calculated data should where possible always be compared with measured intake data. Proposals for MLs should be accompanied by intake calculations and risk assessment conclusions regarding their impact on dietary intake and use. The intake calculations should follow the methodology described in the Policy for Exposure Assessment and, if appropriate, be accompanied by the generation of distribution curves for the concentration in specific foods/food groups (see Sections 2 and 4 of the *Policy of the Committee on Contaminants in Foods for Exposure Assessment of Contaminants and Toxins in Foods or Food Groups* – Section IV of the Procedural Manual). Statements from Governments about the non-acceptance of (proposed) Codex MLs should refer to specified intake calculations and risk management conclusions, which support this position.

FORMAT OF THE GSCTFF

Introduction

The format for the Schedule shall contain the following elements:

- **Name of the contaminant**
- **Synonyms:** symbols, synonyms, abbreviations, scientific descriptions shall be mentioned.
- **Reference to JECFA meetings** (in which the contaminant was discussed).
- **PMTDI, PTWI or similar toxicological guidance value:** when the situation is complex a short statement and further references may be necessary here.
- **Contaminant definition:** definition of the contaminant as it shall be analyzed and to which the maximum level or guideline level applies.
- **Reference** to a source-directed measure or a related code of practice for the contaminant, if appropriate.
- **List of Codex maximum levels or guideline levels for that contaminant;** this list shall be composed of the following elements, in columns:
 - feed/food commodity/product name;
 - Numerical value of maximum level or guideline level and units in which it is expressed;
 - Portion of the Commodity/Product to which the maximum level or guideline level applies;
 - Notes/Remarks, including reference to relevant Codex commodity standards and where necessary, definition of the commodity product

SCHEDULE
MAXIMUM AND GUIDELINE LEVELS FOR CONTAMINANTS AND TOXINS IN FOODS
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Melamine	65
Vinylchloride monomer	66

EXPLANATORY NOTES

Reference to JECFA	References to the JECFA meeting in which the contaminant was evaluated and the year of that meeting.
Toxicological guidance value	Toxicological advice about the tolerable intake level of the contaminant for humans, expressed per kg body weight (bw). The year of recommendations and additional explanation are included.
Contaminant definition	Definition of the contaminant in the form of which the ML or GL applies or which may or should be analyzed in commodities/products.
Synonyms	Symbols, synonyms abbreviations, scientific descriptions and identification codes used to define the contaminant.
Commodity / product name	<p>The commodities or products, to which the ML or GL applies, other than the terms feed or food, are those that are intended for human consumption, unless otherwise specified.</p> <p>The ML or GL contained in Codex commodity standards apply to the commodities within the scope of the Codex commodity standard. Reference to the Codex Standard is provided and the definition of the commodity/product is the definition as provided in the Codex commodity standard.</p> <p>When the ML or GL applies only to the commodity within the scope of the Codex commodity standard then the reference is mentioned as “Relevant Codex commodity standard(s) is (are) ...”. In case the reference to Codex commodity standards is provided as example for commodities to which the ML or GL applies then the reference is mentioned as “Relevant Codex Commodity standards include ...”</p> <p>For the other commodities or products not contained in Codex commodity standards the definition of the commodity or product is provided in the <i>Classification of Food and Feed</i> (CXM 4), unless otherwise specified.</p> <p>In case a ML or GL applies to a product group (e.g. legume vegetables), the ML or GL applies to all individual products belonging to the group as defined in CXM 4</p> <p>For any other commodities or products other than those described above, where necessary, the definition of the commodity/product is provided in “Notes/Remarks”.</p>
Portion of the Commodity/Product to which the maximum level (ML) or guideline level (GL) applies	The portion of the feed or food to which the ML or GL applies, is the portion defined in the Codex commodity standard or CXM 4 or defined at the establishment of the ML or GL, unless otherwise specified.

DEFINITIONS OF SOME TOXICOLOGICAL TERMS

PMTDI	Provisional Maximum Tolerable Daily Intake The endpoint used for contaminants with no cumulative properties. Its value represents permissible human exposure as a result of the natural occurrence of the substance in food and in drinking-water. In the case of trace elements that are both essential nutrients and unavoidable constituents of food, a range is expressed, the lower value representing the level of essentiality and the upper value the PMTDI.
PTWI	Provisional Tolerable Weekly Intake An endpoint used for food contaminants such as heavy metals with cumulative properties. Its value represents permissible human weekly exposure to those contaminants unavoidably associated with the consumption of otherwise wholesome and nutritious foods.
PTMI	Provisional Tolerable Monthly Intake An endpoint used for a food contaminant with cumulative properties that has a very long half-life in the human body. Its value represents permissible human monthly exposure to a contaminant unavoidably associated with otherwise wholesome and nutritious foods.

AFLATOXINS, TOTAL

Reference to JECFA:	31 (1987), 46 (1996), 49 (1997), 68 (2007)
Toxicological guidance value:	Carcinogenic potency estimates for aflatoxins B, G, M (1997, Intake should be reduced to levels as low as reasonably possible)
Contaminant definition:	Aflatoxins total (B ₁ + B ₂ + G ₁ + G ₂)
Synonyms:	Abbreviations, AFB, AFG, with numbers, to designate specific compounds
Related code of practice:	<i>Code of Practice for the Prevention and Reduction of Aflatoxin Contamination in Peanuts (CXC 55-2004)</i> <i>Code of Practice for the Prevention and Reduction of Aflatoxin Contamination in Tree Nuts (CXC 59-2005)</i> <i>Code of Practice for the Reduction of Aflatoxin B1 in Raw Materials and Supplemental Feedingstuffs for Milk Producing Animals (CXC 45-1997)</i> <i>Code of Practice for the Prevention and Reduction of Aflatoxin Contamination in Dried Figs (CXC 65-2008)</i>

Commodity/Product Name	Maximum Level (ML) µg/kg	Portion of the Commodity/Product to which the ML applies	Notes/Remarks
Almonds	10	Whole commodity after removal of shell.	The ML applies to almonds "ready-to-eat" (**). For sampling plan, see Annex 2.
Almonds	15	Whole commodity after removal of shell.	The ML applies to almonds intended for further processing (*). For sampling plan, see Annex 2.
Brazil nuts	10	Whole commodity	The ML applies to shelled Brazil nuts ready-to-eat (**). For sampling plan, see Annex 2.
Brazil nuts	15	Whole commodity	The ML applies to shelled Brazil nuts intended for further processing (*). For sampling plan, see Annex 2.
Hazelnuts	10	Whole commodity after removal of shell.	The ML applies to hazelnuts, also known as filberts, "ready to eat" (**). For sampling plan, see Annex 2.
Hazelnuts	15	Whole commodity after removal of shell.	The ML applies to hazelnuts, also known as filberts, intended for further processing (*). For sampling plan, see Annex 2.
Peanuts	15	Unless specified, seed or kernels, after removal of shell or husk.	The ML applies for peanuts, also known as groundnuts, intended for further processing (*). For sampling plan, see Annex 1.
Pistachios	10	Whole commodity after removal of shell.	The ML applies to pistachios "ready to eat" (**). For sampling plan, see Annex 2.

Commodity/Product Name	Maximum Level (ML) $\mu\text{g}/\text{kg}$	Portion of the Commodity/Product to which the ML applies	Notes/Remarks
Pistachios	15	Whole commodity after removal of shell.	The ML applies to pistachios intended for further processing (*). For sampling plan, see Annex 2.
Dried figs	10	Whole commodity	The ML applies to dried figs "ready-to-eat" (**). For sampling plan see Annex 3.
(*) "destined for further processing" means intended to undergo an additional processing/treatment that has proven to reduce levels of aflatoxins before being used as an ingredient in foodstuffs, otherwise processed or offered for human consumption. Processes that have proven to reduce levels of aflatoxins are shelling, blanching followed by color sorting, and sorting by specific gravity and color (damage). There is some evidence that roasting reduces aflatoxins in pistachios but for other nuts the evidence is still to be supplied.			
(**) "ready-to-eat" means "not intended to undergo an additional processing/treatment that has proven to reduce levels of aflatoxins before being used as ingredient in foodstuffs, otherwise processed or offered for human consumption.			

CHAPTER

01

Mycotoxins



Annex 1

SAMPLING PLAN FOR TOTAL AFLATOXINS IN PEANUTS INTENDED FOR FURTHER PROCESSING**INTRODUCTION**

1. The sampling plan calls for a single 20 kg laboratory sample of shelled peanuts (27 kg of unshelled peanuts) to be taken from a peanut lot (sub-lot) and tested against a maximum level of 15 µg/kg total aflatoxins.
2. This sampling plan has been designed for enforcement and controls concerning total aflatoxins in bulk consignments of peanuts traded in the export market. To assist member countries in implementing the sampling plan, sample selection methods, sample preparation methods and analytical methods required, to quantify aflatoxin in bulk peanut lots are described in this document.

A. DEFINITIONS

Lot	An identifiable quantity of a food commodity delivered at one time and determined by the official to have common characteristics, such as origin, variety, type of packing, packer, consignor or markings.
Sublot	Designated part of a large lot in order to apply the sampling method on that designated part. Each sublot must be physically separate and identifiable.
Sampling plan	It is defined by an aflatoxin test procedure and an accept/reject limit. An aflatoxin test procedure consists of three steps: sample selection, sample preparation and aflatoxin quantification. The accept/reject limit is a tolerance usually equal to the Codex maximum level.
Incremental sample	A quantity of material taken from a single random place in the lot or sublot.
Aggregate sample	The combined total of all the incremental samples taken from the lot or sublot. The aggregate sample has to be at least as large as the 20 kg laboratory sample.
Laboratory sample	The smallest quantity of peanuts comminuted in a mill. The laboratory sample may be a portion of or the entire aggregate sample. If the aggregate sample is larger than 20 kg, a 20 kg laboratory sample should be removed in a random manner from the aggregate sample. The sample should be finely ground and mixed thoroughly using a process that approaches as complete a homogenization as possible.
Test portion	A portion of the comminuted laboratory sample. The entire 20 kg laboratory sample should be comminuted in a mill. A portion of the comminuted 20 kg sample is randomly removed for the extraction of the aflatoxin for chemical analysis. Based upon grinder capacity, the 20 kg aggregate sample can be divided into several equal sized samples, if all results are averaged.

B. SAMPLING**Material to be sampled**

3. Each lot, which is to be examined, must be sampled separately. Large lots should be subdivided into sublots to be sampled separately. The subdivision can be done following provisions laid down in Table 1 below.
4. Considering that the weight of the lot is not always an exact multiple of the weight of the sublots, the weight of the sublot may exceed the mentioned weight by a maximum of 20%.

Table 1. Subdivision of large lots into sublots for sampling

Commodity	Lot weight – ton (T)	Weight or number of sublots	Number of incremental samples	Laboratory sample weight (kg)
Peanuts	≥ 500	100 tons	100	20
	> 100 and < 500	5 sublots	100	20
	≥ 25 and ≤ 100	25 tones	100	20
	> 15 and ≤ 25	--1 sublot	100	20

Number of incremental samples for lots of less than 15 tons

5. The number of incremental samples to be taken depends on the weight of the lot, with a minimum of 10 and a maximum of 100. The figures in the following Table 2 may be used to determine the number of incremental samples to be taken. It is necessary that the total sample weight of 20 kg is achieved.

Table 2. Number of incremental samples to be taken depending on the weight of the lot

Lot weight tones – (T)	N° of incremental samples
$T \leq 1$	10
$1 < T \leq 5$	40
$5 < T \leq 10$	60
$10 < T < 15$	80

Incremental sample selection

6. Procedures used to take incremental samples from a peanut lot are extremely important. Every individual peanut in the lot should have an equal chance of being chosen. Biases will be introduced by the sample selection methods if equipment and procedures used to select the incremental samples prohibit or reduce the chances of any item in the lot from being chosen.
7. Since there is no way to know if the contaminated peanut kernels are uniformly dispersed throughout the lot, it is essential that the aggregate sample be the accumulation of many small portions or increments of the product selected from different locations throughout the lot. If the aggregate sample is larger than desired, it should be blended and subdivided until the desired laboratory sample size is achieved.

Static lots

8. A static lot can be defined as a large mass of peanuts contained either in a single large container such as a wagon, truck, or railcar or in many small containers such as sacks or boxes and the peanuts are stationary at the time a sample is selected. Selecting a truly random sample from a static lot can be difficult because the container may not allow access to all peanuts.
9. Taking an aggregate sample from a static lot usually requires the use of probing devices to select product from the lot. The probing devices used should be specially designed for the type of container. The probe should (1) be long enough to reach all product, (2) not restrict any item in the lot from being selected, and (3) not alter the items in the lot. As mentioned above, the aggregate sample should be a composite from many small increments of product taken from many different locations throughout the lot.
10. For lots traded in individual packages, the sampling frequency (SF), or number of packages that incremental samples are taken from, is a function of the lot weight (LT), incremental sample weight (IS), aggregate sample weight (AS) and the individual packing weight (IP), as follows:

$$\text{Equation 1: } SF = (LT \times IS) / (AS \times IP)$$

The sampling frequency (SF) is the number of packages sampled. All weights should be in the same mass units such as kg.

Dynamic lots

11. True random sampling can be more nearly achieved when selecting an aggregate sample from a moving stream of peanuts as, the lot is transferred, for example, by a conveyor belt from one location to another. When sampling from a moving stream, take small increments of product from the entire length of the moving stream; composite the peanuts to obtain an aggregate sample; if the aggregate sample is larger than the required laboratory sample, then blend and subdivide the aggregate sample to obtain the desired size laboratory sample.
12. Automatic sampling equipment such as cross-cut samplers are commercially available with timers that automatically pass a diverter cup through the moving stream at predetermined and uniform intervals. When automatic equipment is not available, a person can be assigned to manually pass a cup through the stream at periodic intervals to collect incremental samples. Whether using automatic or manual methods, small increments of peanuts should be collected and composited at frequent and uniform intervals throughout the entire time peanuts flow past the sampling point.

13. Cross-cut samplers should be installed in the following manner: (1) the plane of the opening of the diverter cup should be perpendicular to the direction of flow; (2) the diverter cup should pass through the entire cross-sectional area of the stream; and (3) the opening of the diverter cup should be wide enough to accept all items of interest in the lot. As a general rule, the width of the diverter cup opening should be about three times the largest dimensions of the items in the lot.
14. The size of the aggregate sample (S) in kg, taken from a lot by a cross cut sampler is:
Equation 2: $S = (D \times LT) / (T \times V)$
D is the width of the diverter cup opening (in cm), LT is the lot size (in kg), T is interval or time between cup movement through the stream (in seconds), and V is cup velocity (in cm/sec).
15. If the mass flow rate of the moving stream, MR (kg/sec), is known, then the sampling frequency (SF), or number of cuts made by the automatic sampler cup is:
Equation 3: $SF = (S \times V) / (D \times MR)$
16. Equation 2 can also be used to compute other terms of interest such as the time between cuts (T). For example, the required time (T) between cuts of the diverter cup to obtain a 20 kg aggregate sample from a 30 000 kg lot where the diverter cup width is 5.08 cm (2 inches), and the cup velocity through the stream 30 cm/sec. Solving for T in Equation 2.
 $T = (5.08 \text{ cm} \times 30\,000 \text{ kg}) / (20 \text{ kg} \times 30 \text{ cm/sec}) = 254 \text{ sec}$
17. If the lot is moving at 500 kg per minute, the entire lot will pass through the sampler in 60 minutes and only 14 cuts (14 incremental samples) will be made by the cup through the lot. This may be considered too infrequent in that too much product passes through the sampler between the time the cup cuts through the stream.

Weight of the incremental sample

18. The weight of the incremental sample should be approximately 200 g or greater, depending on the total number of increments, to obtain an aggregate sample of 20 kg.

Packaging and transmission of samples

19. Each laboratory sample shall be placed in a clean, inert container offering adequate protection from contamination and against damage in transit. All necessary precautions shall be taken to avoid any change in composition of the laboratory sample which might arise during transportation or storage.

Sealing and labelling of samples

20. Each laboratory sample taken for official use shall be sealed at the place of sampling and identified. A record must be kept of each sampling, permitting each lot to be identified unambiguously and giving the date and place of sampling together with any additional information likely to be of assistance to the analyst.

C. SAMPLE PREPARATION

Precautions

21. Daylight should be excluded as much as possible during the procedure, since aflatoxin gradually breaks down under the influence of ultra-violet light.

Homogenization – Grinding

22. As the distribution of aflatoxin is extremely non-homogeneous, samples should be prepared - and especially homogenized - with extreme care. All laboratory sample obtained from aggregate sample is to be used for the homogenization/grinding of the sample.
23. The sample should be finely ground and mixed thoroughly using a process that approaches as complete a homogenization as possible.
24. The use of a hammer mill with a #14 screen (3.1 mm diameter hole in the screen) has been proven to represent a compromise in terms of cost and precision. A better homogenization (finer grind – slurry) can be obtained by more sophisticated equipment, resulting in a lower sample preparation variance.

Test portion

25. A minimum test portion size of 100 g taken from the laboratory sample.

D. ANALYTICAL METHODS**Background**

26. A criteria-based approach, whereby a set of performance criteria is established with which the analytical method used should comply, is appropriate. The criteria-based approach has the advantage that, by avoiding setting down specific details of the method used, developments in methodology can be exploited without having to reconsider or modify the specified method. The performance criteria established for methods should include all the parameters that need to be addressed by each laboratory such as the detection limit, repeatability coefficient of variation, reproducibility coefficient of variation, and the percent recovery necessary for various statutory limits. Utilizing this approach, laboratories will be free to use the analytical method most appropriate for their facilities. Analytical methods that are accepted by chemists internationally (such as AOAC) may be used. These methods are regularly monitored and improved depending upon technology.

Performance criteria for methods of analysis**Table 3. Specific requirements with which methods of analysis should comply**

Criterion	Concentration Range	Recommended Value	Maximum Permitted Value
Blanks	All	Negligible	-
Recovery-Aflatoxins Total	1 – 15 µg/kg	70 to 110%	
	> 15 µg/kg	80 to 110%	
Precision RSD _R	All	As derived from Horwitz Equation	2 x value derived from Horwitz Equation
Precision RSD _r may be calculated as 0.66 times Precision RSD _R at the concentration of interest			

- The detection limits of the methods used are not stated as the precision values are given at the concentrations of interest;
- The precision values are calculated from the Horwitz equation, i.e.:

$$RSD_R = 2^{(1-0.5\log C)}$$

where:

- * RSD_R is the relative standard deviation calculated from results generated under reproducibility conditions $[(S_r / \bar{x}) \times 100]$
- * C is the concentration ratio (i.e. 1 = 100 g/100 g, 0.001 = 1 000 mg/kg)

27. This is a generalized precision equation, which has been found to be independent of analyte and matrix but solely dependent on concentration for most routine methods of analysis.

**SAMPLING PLANS FOR AFLATOXIN CONTAMINATION IN
READY-TO-EAT TREENUTS AND TREENUTS
DESTINED FOR FURTHER PROCESSING: ALMONDS, HAZELNUTS, PISTACHIOS
AND SHELLED BRAZIL NUTS**

DEFINITIONS

Lot	An identifiable quantity of a food commodity delivered at one time and determined by the official to have common characteristics, such as origin, variety, type of packing, packer, consignor, or markings.
Sublot	Designated part of a larger lot in order to apply the sampling method on that designated part. Each sublot must be physically separate and identifiable.
Sampling plan	It is defined by an aflatoxin test procedure and an accept/reject limit. An aflatoxin test procedure consists of three steps: sample selection, sample preparation and aflatoxin quantification. The accept/reject limit is a tolerance usually equal to the Codex maximum level.
Incremental sample	The quantity of material taken from a single random place in the lot or sublot.
Aggregate sample	The combined total of all the incremental samples that is taken from the lot or sublot. The aggregate sample has to be at least as large as the laboratory sample or samples combined.
Laboratory sample	The smallest quantity of tree nuts comminuted in a mill. The laboratory sample may be a portion of or the entire aggregate sample. If the aggregate sample is larger than the laboratory sample(s), the laboratory sample(s) should be removed in a random manner from the aggregate sample.
Test portion	A portion of the comminuted laboratory sample. The entire laboratory sample should be comminuted in a mill. A portion of the comminuted laboratory sample is randomly removed for the extraction of the aflatoxin for chemical analysis.
Ready-to-eat treenuts	Nuts, which are not intended to undergo an additional processing/treatment that has proven to reduce levels of aflatoxins before being used as an ingredient in foodstuffs, otherwise processed or offered for human consumption.
Treenuts destined for further processing	Nuts, which are intended to undergo an additional processing/treatment that has proven to reduce levels of aflatoxins before being used as an ingredient in foodstuffs, otherwise processed or offered for human consumption. Processes that have proven to reduce levels of aflatoxins are shelling, blanching followed by color sorting, and sorting by specific gravity and color (damage). There is some evidence that roasting reduces aflatoxins in pistachios but for other nuts the evidence is still to be supplied.
Operating characteristic (OC) curve	A plot of the probability of a accepting a lot versus lot concentration when using a specific sampling plan design. The OC curve provides an estimate of good lots rejected (exporter's risk) and bad lots accepted (importer's risk) by a specific aflatoxin sampling plan design.

SAMPLING PLAN DESIGN CONSIDERATIONS

1. Importers may commercially classify treenuts as either "ready-to-eat" (RTE) or "destined for further processing" (DFP). As a result, maximum levels and sampling plans are proposed for both commercial types of treenuts. Maximum levels need to be defined for treenuts destined for further processing and ready-to-eat treenuts before a final decision can be made about a sampling plan design.

2. Treenuts can be marketed either as in-shell or shelled nuts. For example, pistachios are predominately marketed as in-shell nuts while almonds are predominately marketed as shelled nuts.
3. Sampling statistics, shown in Annex, are based upon the uncertainty and aflatoxin distribution among laboratory samples of shelled nuts. Because the shelled nut count per kg is different for each of the treenuts, the laboratory sample size is expressed in number of nuts for statistical purposes. However, the shelled nut count per kg for each treenut, shown in Annex, can be used to convert laboratory sample size from number of nuts to mass and vice versa.
4. Uncertainty estimates associated with sampling, sample preparation, and analysis, shown in Annex, and the negative binomial distribution are used to calculate operating characteristic (OC) curves that describe the performance of the proposed aflatoxin-sampling plans.
5. In Annex, the analytical variance reflects a reproducibility relative standard deviation of 22%, which is based upon Food Analysis Performance Assessment Scheme (FAPAS) data. A relative standard deviation of 22% is considered by FAPAS as an appropriate measure of the best agreement that can be reliably obtained between laboratories. An analytical uncertainty of 22% is larger than the within laboratory variation measured in the sampling studies for the four treenuts.
6. The issue of correcting the analytical test result for recovery is not addressed in this document. However, Table 2 specifies several performance criteria for analytical methods including suggestions for the range of acceptable recovery rates.

AFLATOXIN TEST PROCEDURE AND MAXIMUM LEVELS

7. An aflatoxin-sampling plan is defined by an aflatoxin test procedure and a maximum level. A value for the maximum level and the aflatoxin test procedure are given below in this section.
8. The maximum levels for total aflatoxins in treenuts (almonds, hazelnuts, pistachios and shelled Brazil nuts) "ready-to-eat" and "destined for further processing" are 10 and 15 µg/kg, respectively.
9. Choice of the number and size of the laboratory sample is a compromise between minimizing risks (false positives and false negatives) and costs related to sampling and restricting trade. For simplicity, it is recommended that the proposed aflatoxin sampling plans use a 20 kg aggregate sample for all four treenuts.
10. The two sampling plans (RTE and DFP) have been designed for enforcement and controls concerning total aflatoxins in bulk consignments (lots) of treenuts traded in the export market.

Treenuts destined for further processing

Maximum level	–	15 µg/kg total aflatoxins
Number of laboratory samples	–	1
Laboratory sample size	–	20 kg
Almonds	–	shelled nuts
Hazelnuts	–	shelled nuts
Pistachios	–	in-shell nuts (equivalent to about 10 kg shelled nuts that is calculated on the basis of the actual edible portion in the sample)
Brazil nuts	–	shelled nuts
Sample preparation	–	sample shall be finely ground and mixed thoroughly using a process, e.g., dry grind with a vertical cutter mixer type mill, that has been demonstrated to provide the lowest sample preparation variance. Preferably, Brazil nuts should be ground as slurry.
Analytical method	–	performance based (see Table 2)
Decision rule	–	If the aflatoxin test result is less than or equal to 15 µg/kg total aflatoxins, then accept the lot. Otherwise, reject the lot.

Ready-to-eat treenuts

Maximum level	–	10 µg/kg total aflatoxins
Number of laboratory samples	–	2

Laboratory sample size	–	10 kg
Almonds	–	shelled nuts
Hazelnuts	–	shelled nuts
Pistachios	–	in-shell nuts (equivalent to about 5 kg shelled nuts per test sample that is calculated on the basis of the actual edible portion in the sample)
Brazil nuts	–	shelled nuts
Sample preparation	–	sample shall be finely ground and mixed thoroughly using a process, e.g., dry grind with a vertical cutter mixer type mill, that has been demonstrated to provide the lowest sample preparation variance. Preferably, Brazil nuts should be ground as slurry.
Analytical method	–	performance based (see Table 2)
Decision rule	–	if the aflatoxin test result is less than or equal to 10 µg/kg total aflatoxin in both test samples, then accept the lot. Otherwise, reject the lot.

11. To assist member countries implement these two sampling plans, sample selection methods, sample preparation methods, and analytical methods required to quantify aflatoxin in laboratory samples taken from bulk treenut lots are described in the following sections.

SAMPLE SELECTION

MATERIAL TO BE SAMPLED

12. Each lot, which is to be examined for aflatoxin, must be sampled separately. Lots larger than 25 tons should be subdivided into sublots to be sampled separately. If a lot is greater than 25 tones, the number of sublots is equal to the lot weight in tons divided by 25 tones. It is recommended that a lot or a subplot should not exceed 25 tons. The minimum lot weight should be 500 kg.
13. Considering that the weight of the lot is not always an exact multiple of 25 tone sublots, the weight of the subplot may exceed the mentioned weight by a maximum of 25%.
14. Samples should be taken from the same lot, i.e. they should have the same batch code or at the very least the same best before date. Any changes, which would affect the mycotoxin content, the analytical determination or make the aggregate samples collected unrepresentative should be avoided. For example, do not open packaging in adverse weather conditions or expose samples to excessive moisture or sunlight. Avoid cross-contamination from other potentially contaminated consignments nearby.
15. In most cases any truck or container will have to be unloaded to allow representative sampling to be carried out.

INCREMENTAL SAMPLE SELECTION

16. Procedures used to take incremental samples from a treenut lot are extremely important. Every individual nut in the lot should have an equal chance of being chosen. Biases will be introduced by sample selection methods if equipment and procedures used to select the incremental samples prohibit or reduce the chances of any item in the lot from being chosen.
17. Since there is no way to know if the contaminated treenut kernels are uniformly dispersed throughout the lot, it is essential that the aggregate sample be the accumulation of many small incremental samples of product selected from different locations throughout the lot. If the aggregate sample is larger than desired, it should be blended and subdivided until the desired laboratory sample size is achieved.

NUMBER OF INCREMENTAL SAMPLES FOR LOTS OF VARYING WEIGHT

18. The number and size of the laboratory sample(s) will not vary with lot (subplot) size. However, the number and size of the incremental samples will vary with lot (subplot) size.
19. The number of incremental samples to be taken from a lot (subplot) depends on the weight of the lot. Table 1 shall be used to determine the number of incremental samples to be taken from lots or sublots of various sizes below 25 tons. The number of incremental samples varies from a minimum of 10 and to a maximum of 100.

Table 1. Number and size of incremental samples composited for an aggregate sample of 20 kg^a as a function of lot (or subplot) weight

Lot or subplot weight ^b (T in tons)	Minimum number of incremental samples	Minimum incremental sample size ^c (g)	Minimum aggregate sample size (Kg)
T < 1	10	2 000	20
1 ≤ T < 5	25	800	20
5 ≤ T < 10	50	400	20
10 ≤ T < 15	75	267	20
15 ≤ T	100	200	20

a / Minimum aggregate sample size = laboratory sample size of 20 kg

b / 1 Ton = 1 000 kg

c / Minimum incremental sample size = laboratory sample size (20 kg) /
minimum number of incremental samples,
i.e. for 0.5 < T < 1 ton, 2 000 g = 20 000/10

WEIGHT OF THE INCREMENTAL SAMPLE

20. The suggested minimum weight of the incremental sample should be approximately 200 g for lots of 25 metric tons (25 000 kg). The number and/or size of incremental samples will have to be larger than that suggested in Table 1 for lots sizes below 25 000 kg in order to obtain an aggregate sample greater than or equal to the 20 kg laboratory sample.

STATIC LOTS

21. A static lot can be defined as a large mass of treenuts contained either in a large single container such as a wagon, truck or railcar or in many small containers such as sacks or boxes and the nuts are stationary at the time a sample is selected. Selecting a truly random sample from a static lot can be difficult because all containers in the lot or subplot may not be accessible.
22. Taking incremental samples from a static lot usually requires the use of probing devices to select product from the lot. The probing devices should be specifically designed for the commodity and type of container. The probe should (1) be long enough to reach all products, (2) not restrict any item in the lot from being selected, and (3) not alter the items in the lot. As mentioned above, the aggregate sample should be a composite from many small incremental samples of product taken from many different locations throughout the lot.
23. For lots traded in individual packages, the sampling frequency (SF), or number of packages that incremental samples are taken from, is a function of the lot weight (LT), incremental sample weight (IS), aggregate sample weight (AS) and the individual packing weight (IP), as follows:

$$\text{Equation 1: } SF = (LT \times IS) / (AS \times IP)$$

24. The sampling frequency (SF) is the number of packages sampled. All weights should be in the same mass units such as kg.

DYNAMIC LOTS

25. Representative aggregate samples can be more easily produced when selecting incremental samples from a moving stream of treenuts as the lot is transferred from one location to another. When sampling from a moving stream, take small incremental samples of product from the entire length of the moving stream; composite the incremental samples to obtain an aggregate sample; if the aggregate sample is larger than the required laboratory sample(s), then blend and subdivide the aggregate sample to obtain the desired size laboratory sample(s).
26. Automatic sampling equipment such as a cross-cut sampler is commercially available with timers that automatically pass a diverter cup through the moving stream at predetermined and uniform intervals. When automatic sampling equipment is not available, a person can be assigned to manually pass a cup through the stream at periodic intervals to collect incremental samples. Whether using automatic or manual methods, incremental samples should be collected and composited at frequent and uniform intervals throughout the entire time the nuts flow past the sampling point.

27. Cross-cut samplers should be installed in the following manner: (1) the plane of the opening of the diverter cup should be perpendicular to the direction of the flow; (2) the diverter cup should pass through the entire cross-sectional area of the stream; and (3) the opening of the diverter cup should be wide enough to accept all items of interest in the lot. As a general rule, the width of the diverter cup opening should be about two to three times the largest dimensions of items in the lot.

28. The size of the aggregate sample (S) in kg, taken from a lot by a cross cut sampler is:

$$\text{Equation 2: } S = (D \times LT) / (T \times V)$$

where D is the width of the diverter cup opening (cm), LT is the lot size (kg), T is interval or time between cup movement through the stream (seconds), and V is cup velocity (cm/sec).

29. If the mass flow rate of the moving stream, MR (kg/sec), is known, then the sampling frequency (SF), or number of cuts made by the automatic sampler cup can be computed from Equation 3 as a function of S, V, D, and MR.

$$\text{Equation 3: } SF = (S \times V) / (D \times MR)$$

30. Equations 2 and 3 can also be used to compute other terms of interest such as the time between cuts (T). For example, the time (T) required between cuts of the diverter cup to obtain a 20 kg aggregate sample from a 20 000 kg lot where the diverter cup width is 5.0 cm and the cup velocity through the stream 30 cm/sec. Solving for T in Equation 2.

$$T = (5.0 \text{ cm} \times 20 \text{ 000 kg}) / (20 \text{ kg} \times 30 \text{ cm/sec}) = 250 \text{ sec.}$$

31. If the lot is moving at 500 kg per minute, the entire lot will pass through the sampler in 40 minutes (2 400 sec) and only 9.6 cuts (9 incremental samples) will be made by the cup through the lot (Equation 3). This may be considered too infrequent, in that too much product (2 083.3 kg) passes through the sampler between the time the cup cuts through the stream.

PACKAGING AND TRANSPORTATION OF SAMPLES

32. Each laboratory sample shall be placed in a clean, inert container offering adequate protection from contamination, sunlight, and against damage in transit. All necessary precautions shall be taken to avoid any change in composition of the laboratory sample, which might arise during transportation or storage. Samples should be stored in a cool dark place.

SEALING AND LABELLING OF SAMPLES

33. Each laboratory sample taken for official use shall be sealed at the place of sampling and identified. A record must be kept of each sampling, permitting each lot to be identified unambiguously and giving the date and place of sampling together with any additional information likely to be of assistance to the analyst.

SAMPLE PREPARATION

PRECAUTIONS

34. Sunlight should be excluded as much as possible during sample preparation, since aflatoxin gradually breaks down under the influence of ultra-violet light. Also, environmental temperature and relative humidity should be controlled and not favor mould growth and aflatoxin formation.

HOMOGENIZATION - GRINDING

35. As the distribution of aflatoxin is extremely non-homogeneous, laboratory samples should be homogenized by grinding the entire laboratory sample received by the laboratory. Homogenization is a procedure that reduces particle size and disperses the contaminated particles evenly throughout the comminuted laboratory sample.

36. The laboratory sample should be finely ground and mixed thoroughly using a process that approaches as complete homogenization as possible. Complete homogenization implies that particle size is extremely small, and the variability associated with sample preparation (Annex I) approaches zero. After grinding, the grinder should be cleaned to prevent aflatoxin cross-contamination.

37. The use of vertical cutter mixer type grinders that mix and comminute the laboratory sample into a paste represent a compromise in terms of cost and fineness of grind or particle size reduction. A better homogenization (finer grind), such as a liquid slurry, can be obtained by more sophisticated equipment and should provide the lowest sample preparation variance.

TEST PORTION

38. The suggested weight of the test portion taken from the comminuted laboratory sample should be approximately 50 g. If the laboratory sample is prepared using a liquid slurry, the slurry should contain 50 g of nut mass.

39. Procedures for selecting the 50 g test portion from the comminuted laboratory sample should be a random process. If mixing occurred during or after the comminution process, the 50 g test portion can be selected from any location throughout the comminuted laboratory sample. Otherwise, the 50 g test portion should be the accumulation of several small portions selected throughout the laboratory sample.
40. It is suggested that three test portions be selected from each comminuted laboratory sample. The three test portions will be used for enforcement, appeal, and confirmation if needed.

ANALYTICAL METHODS

BACKGROUND

41. A criteria-based approach, whereby a set of performance criteria is established with which the analytical method used should comply, is appropriate. The criteria-based approach has the advantage that, by avoiding setting down specific details of the method used, developments in methodology can be exploited without having to reconsider or modify the specific method. The performance criteria established for methods should include all the parameters that need to be addressed by each laboratory such as the detection limit, repeatability coefficient of variation (within lab), reproducibility coefficient of variation (among lab), and the percent recovery necessary for various statutory limits. Analytical methods that are accepted by chemists internationally (such as AOAC, ISO) may be used. These methods are regularly monitored and improved depending upon technology.

PERFORMANCE CRITERIA FOR METHODS OF ANALYSIS

42. A list of criteria and performance levels are shown in Table 2. Utilizing this approach, laboratories would be free to use the analytical method most appropriate for their facilities.

Table 2. Specific requirements with methods of analysis should comply with

Criterion	Concentration range (ng/g)	Recommended value	Maximum permitted value
Blanks	All	Negligible	n/a
Recovery	1 to 15	70 to 100%	n/a
	> 15	80 to 110%	n/a
Precision or relative standard deviation RSD_R (Reproducibility)	1 to 120	Equation 4	2 x value derived from Equation 4
	> 120	Equation 5	2 x value derived from Equation 5
Precision or relative standard deviation RSD_r (Repeatability)	1 to 120	Calculated as 0.66 times Precision RSD_R	n/a
	> 120	Calculated as 0.66 times Precision RSD_r	n/a

n/a = not applicable

43. The detection limits of the methods used are not stated. Only the precision values are given at the concentrations of interest. The precision values are calculated from equations 4 and 5.

Equation 4: $RSD_R = 22.0$ (for $C \leq 120 \mu\text{g}/\text{kg}$ or $c \leq 120 \times 10^{-9}$)

Equation 5: $RSD_R = 2^{(1-0.5\log c)}$ (for $C > 120 \mu\text{g}/\text{kg}$ or $c > 120 \times 10^{-9}$)

where:

- RSD_R = the relative standard deviation calculated from results generated under reproducibility conditions
- RSD_r = the relative standard deviation calculated from results generated under repeatability conditions = 0.66 RSD_R
- c = the aflatoxin concentration ratio (i.e. 1 = 100 g/100 g, 0.001 = 1 000 mg/kg)
- C = aflatoxin concentration or mass of aflatoxin to mass of treenuts (i.e. $\mu\text{g}/\text{kg}$)

44. Equations 4 and 5 are generalized precision equations, which have been found to be independent of analyte and matrix but solely dependent on concentration for most routine methods of analysis.
45. Results should be reported on the edible portion of the sample.

Annex

Uncertainty, as measured by the variance, associated with sampling, sample preparation, and analytical steps of the aflatoxin test procedure used to estimate aflatoxin in almonds, hazelnuts, pistachios and shelled Brazil nuts.

Sampling data for almonds, hazelnuts, pistachios and shelled Brazil nuts were supplied by the United States, Turkey, Iran and Brazil, respectively.

Sampling, sample preparation, and analytical variances associated with testing almonds, hazelnuts, pistachios and shelled Brazil nuts are shown in Table 1 below.

Table 1. Variances^a associated with the aflatoxin test procedure for each treenut

Test procedure	Almonds	Hazelnuts	Pistachios	Shelled Brazil nuts
Sampling ^{b,c}	$S_s^2 = (7\ 730/ns) 5.759C^{1.561}$	$S_s^2 = (10\ 000/ns) 4.291C^{1.609}$	$S_s^2 = 8\ 000/ns) 7.913C^{1.475}$	$s_s^2 = (1\ 850/ns) 4.8616C^{1.889}$
Sample Prep ^d	$S_{sp}^2 = (100/nss) 0.170C^{1.646}$	$S_{sp}^2 = (50/nss) 0.021C^{1.545}$	$S_{sp}^2 = (25/nss) 2.334C^{1.522}$	$s_{ss}^2 = (50/nss) 0.0306C^{0.632}$
Analytical ^e	$S_a^2 = (1/na) 0.0484C^{2.0}$	$S_a^2 = (1/na) 0.0484C^{2.0}$	$S_a^2 = (1/na) 0.0484C^{2.0}$	experimental $s_a^2 = (1/n) 0.0164C^{1.117}$ or FAPAS $s_a^2 = (1/n) 0.0484C^{2.0}$
Total variance	$S_s^2 + S_{sp}^2 + S_a^2$	$S_s^2 + S_{sp}^2 + S_a^2$	$S_s^2 + S_{sp}^2 + S_a^2$	$S_s^2 + S_{sp}^2 + S_a^2$

a/ Variance = S^2 (s, sp, and a denote sampling, sample preparation, and analytical steps, respectively, of aflatoxin test procedure)

b/ ns = laboratory sample size in number of shelled nuts, nss =test portion size in grams, na = number of aliquots quantified by HPLC, and C = aflatoxin concentration in $\mu\text{g}/\text{kg}$ total aflatoxin.

c/ Shelled nut count/kg for almonds, hazelnuts, pistachios and Brazil nuts is 773, 1 000, 1 600 and 185, respectively.

d/ Sample preparation for almonds, hazelnuts, and pistachios reflect Hobart, Robot Coupe, Marjaan Khatman and Turrax type mills, respectively. Laboratory samples were dry ground into a paste for each treenut except for Brazil nut that were prepared as a slurry Brazil nut/water 1/1 w/w.

e/ Analytical variances reflect FAPAS recommendation for upper limit of analytical reproducibility uncertainty. A relative standard deviation of 22%, which is based upon FAPAS data, is considered, as an appropriate measure of the best agreement that can be obtained between laboratories. An analytical uncertainty of 22% is larger than the within laboratory uncertainty measured in the sampling studies for the four treenuts.

SAMPLING PLAN FOR AFLATOXIN CONTAMINATION IN DRIED FIGS

DEFINITIONS

Lot	An identifiable quantity of a food commodity delivered at one time and determined by the official to have common characteristics, such as origin, variety, type of packing, packer, consignor, or markings.
Sublot	Designated part of a larger lot in order to apply the sampling method on that designated part. Each sublot must be physically separate and identifiable.
Sampling plan	It is defined by an aflatoxin test procedure and an accept/reject level. An aflatoxin test procedure consists of three steps: sample selection of sample(s) of a given size, sample preparation and aflatoxin quantification. The accept/reject level is a tolerance usually equal to the Codex maximum level.
Incremental sample	The quantity of material taken from a single random place in the lot or sublot.
Aggregate sample	The combined total of all the incremental samples that is taken from the lot or sublot. The aggregate sample has to be at least as large as the laboratory sample or samples combined.
Laboratory sample	The smallest quantity of dried figs comminuted in a mill. The laboratory sample may be a portion of or the entire aggregate sample. If the aggregate sample is larger than the laboratory sample(s), the laboratory sample(s) should be removed in a random manner from the aggregate sample.
Test portion	A portion of the comminuted laboratory sample. The entire laboratory sample should be comminuted in a mill. A portion of the comminuted laboratory sample is randomly removed for the extraction of the aflatoxin for chemical analysis.
Ready-to-eat dried figs	Dried figs, which are not intended to undergo an additional processing/treatment that have proven to reduce levels of aflatoxin before being used as an ingredient in foodstuffs, otherwise processed or offered for human consumption.
Operating characteristic (OC) curve	A plot of the probability of accepting a lot versus lot concentration when using a specific sampling plan design. The OC curve also provides an estimate of good lots rejected (exporter's risk) and bad lots accepted (importer's risk) by a specific aflatoxin sampling plan design.

SAMPLING PLAN DESIGN CONSIDERATIONS

1. Importers commercially classify dried figs mostly as "ready-to-eat" (RTE). As a result, maximum levels and sampling plans are established only for ready-to-eat dried figs.
2. The performance of the sampling plan was computed using the variability and aflatoxin distribution among laboratory samples of dried figs taken from contaminated lots. Because the dried fig count per kg is different for different varieties of dried figs, the laboratory sample size is expressed in number of dried figs for statistical purposes. However, the dried fig count per kg for each variety of dried figs can be used to convert laboratory sample size from number of dried figs to mass and vice versa.
3. Uncertainty estimates (variances) associated with sampling, sample preparation, and analysis and the negative binomial distribution are used to calculate operating characteristic (OC) curves that describe the performance of the aflatoxin-sampling plans for dried figs.
4. The analytical variance measured in the sampling study reflects within laboratory variance and was replaced with an estimate of analytical variance reflects a reproducibility relative standard deviation of 22%, which is based upon Food Analysis Performance Assessment Scheme (FAPAS) data. A relative standard deviation of 22% is considered by FAPAS as an appropriate measure of the best agreement that can be reliably obtained between laboratories. An analytical uncertainty of 22% is larger than the within laboratory variation measured in the sampling studies for dried figs.

5. The issue of correcting the analytical test result for recovery is not addressed in this document. However, Table 2 specifies several performance criteria for analytical methods including suggestions for the range of acceptable recovery rates.

AFLATOXIN TEST PROCEDURE AND MAXIMUM LEVELS

6. An aflatoxin sampling plan is defined by an aflatoxin test procedure and a maximum level. A value for the maximum level and the aflatoxin test procedure are given below in this section.
7. The maximum level for “ready-to-eat” dried figs is 10 ng/g total aflatoxins.
8. Choice of the number and size of the laboratory sample is a compromise between minimizing risks (false positives and false negatives) and costs related to sampling and restricting trade. For simplicity, it is recommended that the aflatoxin sampling plan uses three 10 kg aggregate samples of dried figs.
9. The RTE sampling plan has been designed for enforcement and controls concerning total aflatoxins in bulk consignments (lots) of dried figs traded in the export market.

Maximum level	– 10 µg/kg total aflatoxins
Number of laboratory samples	– 3
Laboratory sample size	– 10 kg
Sample preparation	– water-slurry grind and a test portion that represents 55 g mass of dried figs
Analytical method	– performance based (see Table 2)
Decision rule	– If the aflatoxin test result is less than or equal to 10 µg/kg total aflatoxins for all three 10 kg laboratory samples, then accept the lot. Otherwise, reject the lot.
10. To assist member countries implement the above sampling plan, sample selection methods, sample preparation methods, and analytical methods required to quantify aflatoxin in laboratory samples taken from bulk dried fig lots are described in the following sections.

SAMPLE SELECTION

MATERIAL TO BE SAMPLED

11. Each lot, which is to be examined for aflatoxin, must be sampled separately. Lots larger than 15 tons should be subdivided into sublots to be sampled separately. If a lot is greater than 15 tons, the number of sublots is equal to the lot weight in tons divided by 15 tons. It is recommended that a lot or a subplot should not exceed 15 tons.
12. Considering that the weight of the lot is not always an exact multiple of 15 tons, the weight of the subplot may exceed the mentioned weight by a maximum of 25%.
13. Samples should be taken from the same lot, i.e. they should have the same batch code or at the very least the same best before date. Any changes, which would affect the mycotoxin content, the analytical determination or make the aggregate samples collected unrepresentative should be avoided. For example, do not open packaging in adverse weather conditions or expose samples to excessive moisture or sunlight. Avoid cross-contamination from other potentially contaminated consignments nearby.
14. In most cases any truck or container will have to be unloaded to allow representative sampling to be carried out.

INCREMENTAL SAMPLE SELECTION

15. Procedures used to take incremental samples from a dried fig lot are extremely important. Every individual fig in the lot should have an equal chance of being chosen. Biases will be introduced by sample selection methods if equipment and procedures used to select the incremental samples prohibit or reduce the chances of any item in the lot from being chosen.
16. Since there is no way to know if the contaminated figs are uniformly dispersed throughout the lot, it is essential that the aggregate sample be the accumulation of many small incremental samples of product selected from different locations throughout the lot. If the aggregate sample is larger than desired, it should be blended and subdivided until the desired laboratory sample size is achieved.
17. For lots less than 10 tons, the size of the aggregate sample is reduced so that the aggregate sample size doesn't exceed a significant portion of the lot or subplot size.

NUMBER AND SIZE OF INCREMENTAL SAMPLES FOR LOTS OF VARYING WEIGHT

18. The number of incremental samples to be taken from a lot (sublot) depends on the weight of the lot. Table 1 shall be used to determine the number of incremental samples to be taken from lots or sublots of various sizes. The number of incremental samples varies from 10 to 100 for lots or sublots of various sizes.

Table 1. Number and size of incremental samples composited for an aggregate sample of 30 kg^a as a function of lot (or sublot) weight

Lot or sublot weight ^b (T in tons)	Minimum number of incremental samples	Minimum incremental sample size ^c (g)	Minimum aggregate sample size (Kg)	Laboratory sample size (Kg)	Number of laboratory samples
15.0 ≥ T > 10.0	100	300	30	10	3
10.0 ≥ T > 5.0	80	300	24	8	3
5.0 ≥ T > 2.0	60	300	18	9	2
2.0 ≥ T > 1.0	40	300	12	6	2
1.0 ≥ T > 0.5	30	300	9	9	1
0.5 ≥ T > 0.2	20	300	6	6	1
0.2 ≥ T > 0.1	15	300	4.5	4.5	1
0.1 ≥ T	10	300	3	3	1

a/ Minimum aggregate sample size = laboratory sample size of 30 kg for lots above 10 tons

b/ 1 Ton = 1 000 kg

c/ Minimum incremental sample size = laboratory sample size (30 kg)/minimum number of incremental samples,
i.e. for 10 < T ≤ 15 tons, 300 g = 30 000/100

19. The suggested minimum weight of the incremental sample is 300 g for lots and sublots of various sizes.

STATIC LOTS

20. A static lot can be defined as a large mass of dried figs contained either in a large single container such as a wagon, truck or railcar or in many small containers such as sacks or boxes and the dried figs are stationary at the time a sample is selected. Selecting a truly random sample from a static lot can be difficult because all containers in the lot or sublot may not be accessible.
21. Taking incremental samples from a static lot usually requires the use of probing devices to select product from the lot. The probing devices should be specifically designed for the commodity and type of container. The probe should (1) be long enough to reach all products, (2) not restrict any item in the lot from being selected, and (3) not alter the items in the lot. As mentioned above, the aggregate sample should be a composite from many small incremental samples of product taken from many different locations throughout the lot.
22. For lots traded in individual packages, the sampling frequency (SF), or number of packages that incremental samples are taken from, is a function of the lot weight (LT), incremental sample weight (IS), aggregate sample weight (AS) and the individual packing weight (IP), as follows:

$$\text{Equation 1: } SF = (LT \times IS) / (AS \times IP)$$

23. The sampling frequency (SF) is the number of packages sampled. All weights should be in the same mass units such as kg.

DYNAMIC LOTS

24. Representative aggregate samples can be more easily produced when selecting incremental samples from a moving stream of dried figs as the lot is transferred from one location to another. When sampling from a moving stream, take small incremental samples of product from the entire length of the moving stream; composite the incremental samples to obtain an aggregate sample; if the aggregate sample is larger than the required laboratory sample(s), then blend and subdivide the aggregate sample to obtain the desired size laboratory sample(s).
25. Automatic sampling equipment such as a cross-cut sampler is commercially available with timers that automatically pass a diverter cup through the moving stream at predetermined and uniform intervals.

When automatic sampling equipment is not available, a person can be assigned to manually pass a cup through the stream at periodic intervals to collect incremental samples. Whether using automatic or manual methods, incremental samples should be collected and composited at frequent and uniform intervals throughout the entire time the flow past the sampling point.

26. Cross-cut samplers should be installed in the following manner: (1) the plane of the opening of the diverter cup should be perpendicular to the direction of the flow; (2) the diverter cup should pass through the entire cross-sectional area of the stream; and (3) the opening of the diverter cup should be wide enough to accept all items of interest in the lot. As a general rule, the width of the diverter cup opening should be about two to three times the largest dimensions of items in the lot.

27. The size of the aggregate sample (S) in kg, taken from a lot by a cross cut sampler is:

$$\text{Equation 2: } S = (D \times LT) / (T \times V)$$

where D is the width of the diverter cup opening (cm), LT is the lot size (kg), T is interval or time between cup movement through the stream (seconds), and V is cup velocity (cm/sec).

28. If the mass flow rate of the moving stream, MR (kg/sec), is known, then the sampling frequency (SF), or number of cuts made by the automatic sampler cup can be computed from Equation 3 as a function of S, V, D, and MR.

$$\text{Equation 3: } SF = (S \times V) / (D \times MR)$$

29. Equations 2 and 3 can also be used to compute other terms of interest such as the time between cuts (T). For example, the time (T) required between cuts of the diverter cup to obtain a 30 kg aggregate sample from a 20 000 kg lot where the diverter cup width is 5.0 cm and the cup velocity through the stream 20 cm/sec. Solving for T in Equation 2.

$$T = (5.0 \text{ cm} \times 20\,000 \text{ kg}) / (30 \text{ kg} \times 20 \text{ cm/sec}) = 167 \text{ sec.}$$

30. If the lot is moving at 500 kg per minute, the entire lot will pass through the sampler in 40 minutes (2 400 sec) and only 14.4 cuts (14 incremental samples) will be made by the cup through the lot (Equation 3). This may be considered too infrequent, in that too much product (1 388.9 kg) passes through the sampler between the time the cup cuts through the stream.

PACKAGING AND TRANSPORTATION OF SAMPLES

31. Each laboratory sample shall be placed in a clean, inert container offering adequate protection from contamination, sunlight, and against damage in transit. All necessary precautions shall be taken to avoid any change in composition of the laboratory sample, which might arise during transportation or storage. Samples should be stored in a cool dark place.

SEALING AND LABELLING OF SAMPLES

32. Each laboratory sample taken for official use shall be sealed at the place of sampling and identified. A record must be kept of each sampling, permitting each lot to be identified unambiguously and giving the date and place of sampling together with any additional information likely to be of assistance to the analyst.

SAMPLE PREPARATION

PRECAUTIONS

33. Sunlight should be excluded as much as possible during sample preparation, since aflatoxin gradually breaks down under the influence of ultra-violet light. Also, environmental temperature and relative humidity should be controlled and not favor mould growth and aflatoxin formation.

HOMOGENIZATION - GRINDING

34. As the distribution of aflatoxin is extremely non-homogeneous, the laboratory samples should be homogenized by grinding the entire laboratory sample received by the laboratory. Homogenization is a procedure that reduces particle size and disperses the contaminated particles evenly throughout the comminuted laboratory sample.
35. The laboratory sample should be finely ground and mixed thoroughly using a process that approaches as complete homogenization as possible. Complete homogenization implies that particle size is extremely small, and the variability associated with sample preparation approaches zero. After grinding, the grinder should be cleaned to prevent aflatoxin cross-contamination.
36. The use of vertical cutter mixer type grinders that mix and comminute the laboratory sample into a paste represent a compromise in terms of cost and fineness of grind or particle size reduction. A better homogenization (finer grind), such as a liquid slurry, can be obtained by more sophisticated equipment and should provide the lowest sample preparation variance.

TEST PORTION

37. The suggested weight of the test portion taken from the comminuted laboratory sample should be approximately 50 g. If the laboratory sample is prepared using a liquid slurry, the slurry should contain 50 g of fig mass.
38. Procedures for selecting the 50 g test portion from the comminuted laboratory sample should be a random process. If mixing occurred during or after the comminution process, the 50 g test portion can be selected from any location throughout the comminuted laboratory sample. Otherwise, the 50 g test portion should be the accumulation of several small portions selected throughout the laboratory sample.
39. It is suggested that three test portions be selected from each comminuted laboratory sample. The three test portions will be used for enforcement, appeal, and confirmation if needed.

ANALYTICAL METHODS**BACKGROUND**

40. A criteria-based approach, whereby a set of performance criteria is established with which the analytical method used should comply, is appropriate. The criteria-based approach has the advantage that, by avoiding setting down specific details of the method used, developments in methodology can be exploited without having to reconsider or modify the specific analytical method. The performance criteria established for analytical methods should include all the parameters that need to be addressed by each laboratory such as the detection limit, repeatability coefficient of variation (within lab), reproducibility coefficient of variation (among lab), and the percent recovery necessary for various statutory limits. Analytical methods that are accepted by chemists internationally (such as AOAC) may be used. These methods are regularly monitored and improved depending upon technology.

PERFORMANCE CRITERIA FOR METHODS OF ANALYSIS

41. A list of criteria and performance levels are shown in Table 2. Utilizing this approach, laboratories would be free to use the analytical method most appropriate for their facilities.

Table 2. Specific requirements with which methods of analysis should comply with

Criterion	Concentration range (ng/g)	Recommended value	Maximum permitted value
Blanks	All	Negligible	n/a
Recovery	1 to 15	70 to 100%	n/a
	> 15	80 to 110%	n/a
Precision or relative standard deviation RSD_R (Reproducibility)	1 to 120	Equation 4	2 x value derived from Equation 4
	> 120	Equation 5	2 x value derived from Equation 5
Precision or relative standard deviation RSD_r (Repeatability)	1 to 120	Calculated as 0.66 times Precision RSD_R	n/a
	> 120	Calculated as 0.66 times Precision RSD_r	n/a

n/a = not applicable

42. The detection limits of the methods used are not stated. Only the precision values are given at the concentrations of interest. The precision values (expressed as a%) are calculated from equations 4 and 5.

$$\text{Equation 4: } RSD_R = 22.0$$

$$\text{Equation 5: } RSD_R = 45.25C^{-0.15}$$

where:

- RSD_R = the relative standard deviation calculated from results generated under reproducibility conditions
- RSD_r = the relative standard deviation calculated from results generated under repeatability conditions = $0.66RSD_R$
- C = aflatoxin concentration or mass of aflatoxin to mass of dried figs (i.e. ng/g)

43. Equations 4 and 5 are generalized precision equations, which have been found to be independent of analyte and matrix but solely dependent on concentration for most routine methods of analysis.
44. Results should be reported on the sample.

UNCERTAINTY, AS MEASURED BY THE VARIANCE, ASSOCIATED WITH THE SAMPLING, SAMPLE PREPARATION, AND ANALYTICAL STEPS OF THE AFLATOXIN TEST PROCEDURE USED TO DETECT AFLATOXIN IN DRIED FIGS

45. The sampling, sample preparation, and analytical variances associated with the aflatoxin test procedure for dried figs are shown in Table 3.

Table 3. Variances^a associated with the aflatoxin test procedure for dried figs

Test Procedure Variances for Dried Figs	
Sampling ^{b,c}	$S^2_s = (590/ns) 2.219C^{1.433}$
Sample Prep ^d	$S^2_{sp} = (55/nss) 0.01170C^{1.465}$
Analytical ^e	$S^2_a = (1/na) 0.0484C^{2.0}$
Total	$S^2_t = S^2_s + S^2_{sp} + S^2_a$

a / Variance = S^2 (t, s, sp, and a denote total, sampling, sample preparation, and analytical steps, respectively, of aflatoxin test procedure)

b / ns = laboratory sample size in number of dried figs, nss = test portion size in grams of fig mass, na = number of aliquots quantified by HPLC, and C = aflatoxin concentration in ng/g total aflatoxins

c / Count/kg for dried figs averaged 59/kg

d / Sample preparation variance reflects a water-slurry method and a test portion that reflects 55 g fig mass

e / Analytical variances reflect FAPAS recommendation for upper limit of analytical reproducibility uncertainty. A relative standard deviation of 22% is based upon FAPAS data and considered as an appropriate measure of the best agreement that can be obtained between laboratories. An analytical uncertainty of 22% is larger than the within laboratory uncertainty measured in the sampling studies for the three dried figs.

AFLATOXIN M₁

Reference to JECFA: 56 (2001)

Toxicological guidance value: Cancer potency estimates at specified residue levels (2001, Using worst-case assumptions, the additional risks for liver cancer predicted with use of proposed maximum levels of aflatoxin M₁ of 0.05 and 0.5 µg/kg are very small. The potency of aflatoxin M₁ appears to be so low in HBsAg- individuals that a carcinogenic effect of M₁ intake in those who consume large quantities of milk and milk products in comparison with non-consumers of these products would be impossible to demonstrate. Hepatitis B virus carriers might benefit from a reduction in the aflatoxin concentration in their diet, and the reduction might also offer some protection in hepatitis C virus carriers).

Contaminant definition: Aflatoxin M₁

Synonyms: AFM₁

Related code of practice: *Code of Practice for the Reduction of Aflatoxin B₁ in Raw Materials and Supplemental Feedingstuffs for Milk Producing Animals (CXC 45-1997)*

Commodity/Product Name	Maximum Level (ML) µg/kg	Portion of the Commodity/Product to which the ML applies	Notes/Remarks
Milks	0.5	Whole commodity	Milk is the normal mammary secretion of milking animals obtained from one or more milkings without either addition to it or extraction from it, intended for consumption as liquid milk or for further processing. A concentration factor applies to partially or wholly dehydrated milks.

DEOXYNIVALENOL (DON)

Reference to JECFA: 56 (2001), 72 (2010)

Toxicological guidance value: Group PMTDI 0.001 mg/kg bw (2010, for DON and its acetylated derivatives)
Group ARfD 0.008 mg/kg bw (2010, for DON and its acetylated derivatives)

Contaminant definition: Deoxynivalenol

Synonyms: Vomitoxin; Abbreviation, DON

Related code of practice: *Code of Practice for the Prevention and Reduction of Mycotoxin Contamination in Cereals (CXC 51-2003)*

Commodity/Product Name	Maximum Level (ML) µg/kg	Portion of the Commodity/Product to which the ML applies	Notes/Remarks
Cereal-based foods for infants and young children	200	ML applies to the commodity on a dry matter basis.	All cereal-based foods intended for infants (up to 12 months) and young children (12 to 36 months).
Flour, meal, semolina and flakes derived from wheat, maize or barley	1 000		
Cereal grains (wheat, maize and barley) destined for further processing	2 000		"Destined for further processing" means intended to undergo an additional processing/treatment that has proven to reduce levels of DON before being used as an ingredient in foodstuffs, otherwise processed or offered for human consumption. Codex members may define the processes that have been shown to reduce levels.

**SAMPLING PLANS AND PERFORMANCE CRITERIA FOR DEOXYNIVALENOL (DON) IN
CEREAL-BASED FOODS FOR INFANTS AND YOUNG CHILDREN;
IN FLOUR, MEAL, SEMOLINA AND FLAKES DERIVED FROM WHEAT, MAIZE OR BARLEY; AND IN
CEREAL GRAINS (WHEAT, MAIZE AND BARLEY) DESTINED FOR FURTHER PROCESSING**

Cereal grains (wheat, maize and barley) destined for further processing

Maximum level	2000 µg/kg DON
Increments	increments of 100 g, depending on the lot weight (≥ 0.5 tons)
Sample preparation	dry grind with a suitable mill (particles smaller than 0.85 mm - 20 mesh)
Laboratory sample weight	≥ 1 kg
Number of laboratory samples	1
Test portion	25 g test portion
Method	HPLC
Decision rule	If the DON-sample test result for the laboratory samples is equal or less than 2000 µg/kg, accept the lot. Otherwise, reject the lot.

Cereal-based foods for infants and young children

Maximum level	200 µg/kg DON
Increments	10 x 100 g
Sample preparation	None
Laboratory sample weight	1 kg
Number of laboratory samples	1
Test portion	25 g test portion
Method	HPLC
Decision rule	If the DON sample test result is equal or less than 200 µg/kg, accept the lot. Otherwise, reject the lot.

Flour, semolina, meal and flakes derived from wheat, maize or barley

Maximum level	1000 µg/kg DON
Increments	10 x 100 g
Sample preparation	None
Laboratory sample weight	1 kg
Number of laboratory samples	1
Test portion	25 g test portion
Method	HPLC
Decision rule	If the DON sample test result is equal or less than 1000 µg/kg, accept the lot. Otherwise, reject the lot.

DEFINITIONS

Lot	An identifiable quantity of a food commodity delivered at one time and determined by the official to have common characteristics, such as origin, variety, type of packing, packer, consignor, or markings.
Sublot	Designated part of a larger lot in order to apply the sampling method on that designated part. Each sublot must be physically separate and identifiable.
Sampling plan	It is defined by a DON test procedure and an accept/reject level. A DON test procedure consists of three steps: sample selection, sample preparation and analysis or DON quantification. The accept/reject level is a tolerance usually equal to the Codex maximum level (ML).

Incremental sample	The quantity of material taken from a single random place in the lot or subplot.
Aggregate sample	The combined total of all the incremental samples that is taken from the lot or subplot. The aggregate sample has to be at least as large as the laboratory sample or samples combined.
Laboratory sample	The smallest quantity of shelled cereal comminuted in a mill. The laboratory sample may be a portion of or the entire aggregate sample. If the aggregate sample is larger than the laboratory sample(s), the laboratory sample(s) should be removed in a random manner from the aggregate sample in such a way to ensure that the laboratory sample is still representative of the subplot sampled.
Test portion	A portion of the comminuted laboratory sample. The entire laboratory sample should be comminuted in a mill. A portion of the comminuted laboratory sample is randomly removed for the extraction of the DON for chemical analysis.

SAMPLING PLAN DESIGN CONSIDERATIONS

MATERIAL TO BE SAMPLED

- Each lot of cereal, which is to be examined for DON, must be sampled separately. Lots larger than 50 tons should be subdivided into sublots to be sampled separately. If a lot is greater than 50 tons, the lot should be subdivided into sublots according to Table 1.

Table 1. Subdivision of cereal sublots according to lot weight

Lot weight (t)	Maximum Weight or minimum number of sublots	Number of incremental samples	Minimum laboratory Sample Weight (kg)
≥ 1500	500 tons	100	1
> 300 and < 1500	3 sublots	100	1
≥ 100 and ≤ 300	100 tons	100	1
≥ 50 and < 100	2 sublots	100	1
< 50	-	3-100*	1

* see table 2

- Considering that the weight of the lot is not always an exact multiple of the weight of sublots, the weight of the subplot may exceed the mentioned weight by a maximum of 20%.

INCREMENTAL SAMPLE

- The suggested minimum weight of the incremental sample should be 100 grams for lots ≥ 0.5 tons.
- For lots less than 50 tons, the sampling plan must be used with 3 to 100 incremental samples, depending on the lot weight. For very small lots (≤ 0.5 tons) a lower number of incremental samples may be taken, but the aggregate sample uniting all incremental samples shall be also in that case at least 1 kg. Table 2 may be used to determine the number of incremental samples to be taken.

Table 2. Number of incremental samples to be taken depending on the weight of the lot of

Lot weight (t)	Number of incremental samples	Minimum Laboratory Sample Weight (kg)
≤ 0.05	3	1
> 0.05 - ≤ 0.5	5	1
> 0.5 - ≤ 1	10	1
> 1 - ≤ 3	20	1
> 3 - ≤ 10	40	1
> 10 - ≤ 20	60	1
> 20 - < 50	100	1

STATIC LOTS

5. A static lot can be defined as a large mass of shelled cereal contained either in a large single container such as a wagon, truck or railcar or in many small containers such as sacks or boxes and the cereal is stationary at the time a sample is selected. Selecting a truly random sample from a static lot can be difficult because all containers in the lot or subplot may not be accessible.
6. Taking incremental samples from a static lot usually requires the use of probing devices to select product from the lot. The probing devices should be specifically designed for the commodity and type of container. The probe should (1) be long enough to reach all products, (2) not restrict any item in the lot from being selected, and (3) not alter the items in the lot. As mentioned above, the aggregate sample should be a composite from many small incremental samples of product taken from many different locations throughout the lot.
7. For lots traded in individual packages, the sampling frequency (SF), or number of packages that incremental samples are taken from, is a function of the lot weight (LT), incremental sample weight (IS), aggregate sample weight (AS) and the individual packing weight (IP), as follows:

$$SF = (LT \times IS) / (AS \times IP).$$
8. The sampling frequency (SF) is the number of packages sampled. All weights should be in the same mass units such as kg.

DYNAMIC LOTS

9. Representative aggregate samples can be more easily produced when selecting incremental samples from a moving stream of shelled cereal as the lot is transferred from one location to another. When sampling from a moving stream, take small incremental samples of product from the entire length of the moving stream; composite the incremental samples to obtain an aggregate sample; if the aggregate sample is larger than the required laboratory sample(s), then blend and subdivide the aggregate sample to obtain the desired size laboratory sample(s).
10. Automatic sampling equipment such as a cross-cut sampler is commercially available with timers that automatically pass a diverter cup through the moving stream at predetermined and uniform intervals. When automatic sampling equipment is not available, a person can be assigned to manually pass a cup through the stream at periodic intervals to collect incremental samples. Whether using automatic or manual methods, incremental samples should be collected and composited at frequent and uniform intervals throughout the entire time the cereal flow past the sampling point.
11. Cross-cut samplers should be installed in the following manner: (1) the plane of the opening of the diverter cup should be perpendicular to the direction of the flow; (2) the diverter cup should pass through the entire cross-sectional area of the stream; and (3) the opening of the diverter cup should be wide enough to accept all items of interest in the lot. As a general rule, the width of the diverter cup opening should be about two to three times the largest dimensions of items in the lot.
12. The size of the aggregate sample (S) in kg, taken from a lot by a cross cut sampler is:

$$S = (D \times LT) / (T \times V),$$

where D is the width of the diverter cup opening (cm), LT is the lot size (kg), T is interval or time between cup movement through the stream (seconds), and V is cup velocity (cm/sec).
13. If the mass flow rate of the moving stream, MR (kg/sec), is known, then the sampling frequency (SF), or number of cuts made by the automatic sampler cup can be computed as a function of S, V, D, and MR.

$$SF = (S \times V) / (D \times MR).$$

PACKAGING AND TRANSPORTATION OF SAMPLES

14. Each laboratory sample shall be placed in a clean, inert container offering adequate protection from contamination, sunlight, and against damage in transit. All necessary precautions shall be taken to avoid any change in composition of the laboratory sample, which might arise during transportation or storage. Samples should be stored in a cool dark place.
15. Each laboratory sample taken for official use shall be sealed at the place of sampling and identified. A record must be kept of each sampling, permitting each lot to be identified unambiguously and giving the date and place of sampling together with any additional information likely to be of assistance to the analyst.

SAMPLE PREPARATION

16. Sunlight should be excluded as much as possible during sample preparation, since DON may gradually break down under the influence of ultra-violet light. Also, environmental temperature and relative humidity should be controlled and not favor mould growth and DON formation.

17. As the distribution of DON is extremely non-homogeneous, laboratory samples should be homogenized by grinding the entire laboratory sample received by the laboratory. Homogenization is a procedure that reduces particle size and disperses the contaminated particles evenly throughout the comminuted laboratory sample.
18. The laboratory sample should be finely ground and mixed thoroughly using a process that approaches as complete homogenization as possible. Complete homogenization implies that particle size is extremely small, and the variability associated with sample preparation approaches zero. After grinding, the grinder should be cleaned to prevent DON cross-contamination.

TEST PORTION

19. The suggested weight of the test portion taken from the comminuted laboratory sample should be approximately 25 g
20. Procedures for selecting the test portion from the comminuted laboratory sample should be a random process. If mixing occurred during or after the comminuting process, the test portion can be selected from any location throughout the comminuted laboratory sample. Otherwise, the test portion should be the accumulation of several small portions selected throughout the laboratory sample.
21. It is suggested that three test portions be selected from each comminuted laboratory sample. The three test portions will be used for enforcement, appeal, and confirmation if needed.

ANALYTICAL METHODS

22. A criteria-based approach, whereby a set of performance criteria is established with which the analytical method used should comply, is appropriate. The criteria-based approach has the advantage that, by avoiding setting down specific details of the method used, developments in methodology can be exploited without having to reconsider or modify the specific method. A list of possible criteria and performance levels are shown in Table 3). Utilizing this approach, laboratories would be free to use the analytical method most appropriate for their facilities.

Table 3. Proposed method criteria for DON in cereals.

Commodity	ML (mg/kg)	LOD (mg/kg)	LOQ (mg/kg)	Precision on HorRat	Minimum applicable range (mg/kg)	Recovery
Cereal grains (wheat, maize and barley) destined for further processing	2.0	≤ 0.2	≤ 0.4	≤ 2	1-3	80 - 110%
Cereal-based foods for infants and young children	0.2	≤ 0.02	≤ 0.04	≤ 2	0.1 – 0.3	80 – 110%
Flour, semolina, meal and flakes derived from wheat, maize or barley	1.0	≤ 0.1	≤ 0.2	≤ 2	0.5 – 1.5	80 – 110%

FUMONISINS (B₁ + B₂)

Reference to JECFA: 56 (2001), 74 (2011)

Toxicological guidance value: PMTDI 0.002 mg/kg bw (2001, 2011)

Contaminant definition: Fumonisin (B₁+ B₂)Synonyms: Several related compounds have been described, notably fumonisin B₁, B₂ and B₃ (abbreviation: FB₁ etc.)Related code of practice: *Code of Practice for the Prevention and Reduction of Mycotoxin Contamination in Cereals (CXC 51-2003)*

Commodity/Product Name	Maximum Level (ML) µg/kg	Portion of the Commodity/Product to which the ML applies	Notes/Remarks
Raw maize grain	4 000	Whole commodity	
Maize flour and maize meal	2 000	Whole commodity	

**SAMPLING PLANS AND PERFORMANCE CRITERIA FOR FUMONISINS (FB1 + FB2)
IN MAIZE GRAIN AND MAIZE FLOUR AND MAIZE MEAL**

Maize grain, unprocessed

Maximum level	4 000 µg/kg FB1 + FB2
Increments	increments of 100 g, depending on the lot weight (≥ 0.5 tons)
Sample preparation	dry grind with a suitable mill (particles smaller than 0.85 mm - 20 mesh)
Laboratory sample weight	≥ 1 kg
Number of laboratory samples	1
Test portion	25 g test portion
Method	HPLC
Decision rule	If the fumonisin-sample test result for the laboratory samples is equal or less than 4 000 µg/kg, accept the lot. Otherwise, reject the lot.

Maize flour and maize meal

Maximum level	2 000 µg/kg FB1 + FB2
Increments	10 x 100 g
Sample preparation	None
Laboratory sample weight	≥ 1 kg
Number of laboratory samples	1
Test portion	25 g test portion
Method	HPLC
Decision rule	If the fumonisin-sample test result is equal or less than 2 000 µg/kg, accept the lot. Otherwise, reject the lot.

DEFINITION

Lot	An identifiable quantity of a food commodity delivered at one time and determined by the official to have common characteristics, such as origin, variety, type of packing, packer, consignor, or markings.
Sublot	The designated part of a larger lot in order to apply the sampling method on that designated part. Each sublot must be physically separate and identifiable.
Sampling plan	It is defined by a fumonisin test procedure and an accept/reject level. A fumonisin test procedure consists of three steps: sample selection, sample preparation and analysis or fumonisin quantification. The accept/reject level is a tolerance usually equal to the Codex maximum level (ML).
Incremental sample	The quantity of material taken from a single random place in the lot or sublot.
Aggregate sample	The combined total of all the incremental samples that is taken from the lot or sublot. The aggregate sample has to be at least as large as the laboratory sample or samples combined.
Laboratory sample	The smallest quantity of shelled maize comminuted in a mill. The laboratory sample may be a portion of or the entire aggregate sample. If the aggregate sample is larger than the laboratory sample(s), the laboratory sample(s) should be removed in a random manner from the aggregate sample in such a way to ensure that the laboratory sample is still representative of the sublot sampled.
Test portion	A portion of the comminuted laboratory sample. The entire laboratory sample should be comminuted in a mill. A portion of the comminuted laboratory sample is randomly removed for the extraction of the fumonisin for chemical analysis.

SAMPLING PLAN DESIGN CONSIDERATIONS

MATERIAL TO BE SAMPLED

- Each lot of maize, which is to be examined for fumonisin, must be sampled separately. Lots larger than 50 tons should be subdivided into sublots to be sampled separately. If a lot is greater than 50 tons, the lot should be subdivided into sublots according to Table 1.

Table 1. Subdivision of maize sublots according to lot weight

Lot weight (t)	Maximum weight or minimum number of sub-lots	Number of incremental sample	Minimum laboratory sample weight (kg)
≥ 1500	500 tons	100	1
> 300 and < 1500	3 sublots	100	1
≥ 100 and ≤ 300	100 tons	100	1
≥ 50 and < 100	2 sublots	100	1
< 50	-	3-100*	1

* see table 2

- Considering that the weight of the lot is not always an exact multiple of the weight of sublots, the weight of the subplot may exceed the mentioned weight by a maximum of 20%.

INCREMENTAL SAMPLE

- The suggested minimum weight of the incremental sample should be 100 grams for lots ≥0.5 tons.
- For lots less than 50 tons, the sampling plan must be used with 3 to 100 incremental samples, depending on the lot weight. For very small lots (≤ 0.5 tons) a lower number of incremental samples may be taken, but the aggregate sample uniting all incremental samples shall be also in that case at least 1 kg. Table 2 may be used to determine the number of incremental samples to be taken.

Table 2. Number of incremental samples to be taken depending on the weight of the lot

Lot weight (t)	Number of incremental sample	Minimum laboratory sample weight (kg)
≤ 0.05	3	1
> 0.05 - ≤ 0.5	5	1
> 0.5 - ≤ 1	10	1
> 1 - ≤ 3	20	1
> 3 - ≤ 10	40	1
> 10 - ≤ 20	60	1
> 20 - < 50	100	1

STATIC LOTS

- A static lot can be defined as a large mass of shelled maize contained either in a large single container such as a wagon, truck or railcar or in many small containers such as sacks or boxes and the maize is stationary at the time a sample is selected. Selecting a truly random sample from a static lot can be difficult because all containers in the lot or subplot may not be accessible.
- Taking incremental samples from a static lot usually requires the use of probing devices to select product from the lot. The probing devices should be specifically designed for the commodity and type of container. The probe should (1) be long enough to reach all products, (2) not restrict any item in the lot from being selected, and (3) not alter the items in the lot. As mentioned above, the aggregate sample should be a composite from many small incremental samples of product taken from many different locations throughout the lot.
- For lots traded in individual packages, the sampling frequency (SF), or number of packages that incremental samples are taken from, is a function of the lot weight (LT), incremental sample weight (IS), aggregate sample weight (AS) and the individual packing weight (IP), as follows:

$$SF = (LT \times IS) / (AS \times IP).$$

8. The sampling frequency (SF) is the number of packages sampled. All weights should be in the same mass units such as kg.

DYNAMIC LOTS

9. Representative aggregate samples can be more easily produced when selecting incremental samples from a moving stream of shelled maize as the lot is transferred from one location to another. When sampling from a moving stream, take small incremental samples of product from the entire length of the moving stream; composite the incremental samples to obtain an aggregate sample; if the aggregate sample is larger than the required laboratory sample(s), then blend and subdivide the aggregate sample to obtain the desired size laboratory sample(s).
10. Automatic sampling equipment such as a cross-cut sampler is commercially available with timers that automatically pass a diverter cup through the moving stream at predetermined and uniform intervals. When automatic sampling equipment is not available, a person can be assigned to manually pass a cup through the stream at periodic intervals to collect incremental samples. Whether using automatic or manual methods, incremental samples should be collected and composited at frequent and uniform intervals throughout the entire time the maize flow past the sampling point.
11. Cross-cut samplers should be installed in the following manner: (1) the plane of the opening of the diverter cup should be perpendicular to the direction of the flow; (2) the diverter cup should pass through the entire cross-sectional area of the stream; and (3) the opening of the diverter cup should be wide enough to accept all items of interest in the lot. As a general rule, the width of the diverter cup opening should be about two to three times the largest dimensions of items in the lot.
12. The size of the aggregate sample (S) in kg, taken from a lot by a cross cut sampler is:

$$S = (D \times LT) / (T \times V),$$
 where D is the width of the diverter cup opening (cm), LT is the lot size (kg), T is interval or time between cup movement through the stream (seconds), and V is cup velocity (cm/sec).
13. If the mass flow rate of the moving stream, MR (kg/sec), is known, then the sampling frequency (SF), or number of cuts made by the automatic sampler cup can be computed as a function of S, V, D, and MR.

$$SF = (S \times V) / (D \times MR).$$

PACKAGING AND TRANSPORTATION OF SAMPLES

14. Each laboratory sample shall be placed in a clean, inert container offering adequate protection from contamination, sunlight, and against damage in transit. All necessary precautions shall be taken to avoid any change in composition of the laboratory sample, which might arise during transportation or storage. Samples should be stored in a cool dark place.
15. Each laboratory sample taken for official use shall be sealed at the place of sampling and identified. A record must be kept of each sampling, permitting each lot to be identified unambiguously and giving the date and place of sampling together with any additional information likely to be of assistance to the analyst.

SAMPLE PREPARATION

16. Sunlight should be excluded as much as possible during sample preparation, since fumonisin may gradually break down under the influence of ultra-violet light. Also, environmental temperature and relative humidity should be controlled and not favor mould growth and fumonisin formation.
17. As the distribution of fumonisin is extremely non-homogeneous, laboratory samples should be homogenized by grinding the entire laboratory sample received by the laboratory. Homogenization is a procedure that reduces particle size and disperses the contaminated particles evenly throughout the comminuted laboratory sample.
18. The laboratory sample should be finely ground and mixed thoroughly using a process that approaches as complete homogenization as possible. Complete homogenization implies that particle size is extremely small, and the variability associated with sample preparation approaches zero. After grinding, the grinder should be cleaned to prevent fumonisin cross-contamination.

TEST PORTION

19. The suggested weight of the test portion taken from the comminuted laboratory sample should be approximately 25 g
20. Procedures for selecting the test portion from the comminuted laboratory sample should be a random process. If mixing occurred during or after the comminuting process, the test portion can be selected from any location throughout the comminuted laboratory sample. Otherwise, the test portion should be the accumulation of several small portions selected throughout the laboratory sample.

21. It is suggested that three test portions be selected from each comminuted laboratory sample. The three test portions will be used for enforcement, appeal, and confirmation if needed.

ANALYTICAL METHODS

22. A criteria-based approach, whereby a set of performance criteria is established with which the analytical method used should comply, is appropriate. The criteria-based approach has the advantage that, by avoiding setting down specific details of the method used, developments in methodology can be exploited without having to reconsider or modify the specific method. A list of possible criteria and performance levels are shown in Table 3). Utilizing this approach, laboratories would be free to use the analytical method most appropriate for their facilities.

Table 3. Performance criteria for Fumonisin B1+ B2.

Maize Grain

Analyte	ML (mg/Kg)	LOD (mg/Kg)	LOQ (mg/Kg)	RSD _R	Recovery (%)
FB1 + FB2	4.0	-	-	-	-
FB1		≤ 0.3*	≤ 0.6*	HorRat ≤ 2 (< 27%)	80 - 110
FB2		≤ 0.15*	≤ 0.3*	HorRat ≤ 2 (< 32%)	80 - 110

* - The LOD and LOQ were derived based upon typical B1:B2 ratio of 5:2 in naturally-contaminated samples

Maize Flour/Meal

Analyte	ML (mg/Kg)	LOD (mg/Kg)	LOQ (mg/Kg)	RSD _R	Recovery (%)
FB1 + FB2	2.0	-	-	-	-
FB1		≤ 0.15*	≤ 0.3*	HorRat ≤ 2 (< 30%)	80 – 110
FB2		≤ 0.06*	≤ 0.15*	HorRat ≤ 2 (< 34%)	80 – 110

* - The LOD and LOQ were derived based upon typical B1:B2 ratio of 5:2 in naturally-contaminated samples

OCHRATOXIN A

Reference to JECFA: 37 (1990), 44 (1995), 56 (2001), 68 (2007)

Toxicological guidance value: PTWI 0.0001 mg/kg bw (2001)

Contaminant definition: Ochratoxin A

Synonyms: (The term "ochratoxins" includes a number of related mycotoxins (A, B, C and their esters and metabolites), the most important one being ochratoxin A)

Related code of practice: *Code of Practice for the Prevention and Reduction of Mycotoxin Contamination in Cereals* (CXC 51-2003)
Code of Practice for the Prevention and Reduction of Ochratoxin a Contamination in Wine (CXC 63-2007)
Code of Practice for the Prevention and Reduction of Ochratoxin a Contamination in Coffee (CXC 69-2009)
Code of Practice for the Prevention and Reduction of Ochratoxin A contamination in Cocoa (CXC 72-2013)

Commodity/Product Name	Maximum Level (ML) µg/kg	Portion of the Commodity/Product to which the ML applies	Notes/Remarks
Wheat	5	Whole commodity	The ML applies to raw common wheat, raw durum wheat, raw spelt and raw emmer.
Barley	5	Whole commodity	The ML applies to raw barley.
Rye	5	Whole commodity	The ML applies to raw rye.

PATULIN

Reference to JECFA: 35 (1989), 44 (1995)

Toxicological guidance value: PMTDI 0.0004 mg/kg bw (1995)

Contaminant definition: Patulin

Related code of practice: *Code of Practice for the Prevention and Reduction of Patulin Contamination in Apple Juice and Apple Juice Ingredients in Other Beverages (CXC 50-2003)*

Commodity/Product Name	Maximum Level (ML) µg/kg	Portion of the Commodity/Product to which the ML applies	Notes/Remarks
Apple juice	50	Whole commodity (not concentrated) or commodity reconstituted to the original juice concentration.	Relevant Codex commodity standard include CXS 247-2005 (apple products only). The ML applies also to apple juice used as an ingredient in other beverages.

CHAPTER

02

Heavy Metals



ARSENIC

Reference to JECFA:	5 (1960), 10 (1967), 27 (1983), 33 (1988), 72 (2010)
Toxicological guidance value:	At the 72 nd meeting of JECFA (2010), the inorganic arsenic lower limit on the benchmark dose for a 0.5% increased incidence of lung cancer (BMDL 0.5) was determined from epidemiological studies to be 3.0 µg/kg bw/day (2–7 µg/kg bw/day based on the range of estimated total dietary exposure) using a range of assumptions to estimate total dietary exposure to inorganic arsenic from drinking-water and food. The JECFA noted that the provisional tolerable weekly intake (PTWI) of 15 µg/kg bw (equivalent to 2.1 µg/kg bw/day) is in the region of the BMDL 0.5 and therefore was no longer appropriate. The JECFA withdrew the previous PTWI.
Contaminant definition:	Arsenic: total (As-tot) when not otherwise mentioned; inorganic arsenic (As-in); or other specification
Synonyms:	As
Related code of practice:	<i>Code of Practice for Source Directed Measures to Reduce Contamination of Foods with Chemicals (CXC 49-2001)</i> <i>Code of Practice for the Prevention and Reduction of Arsenic Contamination in Rice (CXC 77-2017)</i>

Commodity/Product Name	Maximum Level (ML) mg/kg	Portion of the Commodity/Product to which the ML applies	Notes/Remarks
Edible fats and oils	0.1	Whole commodity	Relevant Codex commodity standards are CXS 19-1981, CXS 33-1981, CXS 210-1999, CXS 211-1999 and CXS 329-2017. For fish oils covered by CXS 329-2017, the ML is for fish oils (As-in). Countries or importers may decide to use their own screening when applying the ML for As-in in fish oils by analyzing total arsenic (As-tot) in fish oils. If the As-tot concentration is below the ML for As-in, no further testing is required, and the sample is determined to be compliant with the ML. If the As-tot concentration is above the ML for As-in, follow-up testing shall be conducted to determine if the As-in concentration is above the ML.
Fat spreads and blended spreads	0.1		Relevant Codex commodity standard is CXS 256-2007.
Natural mineral waters	0.01		Relevant Codex commodity standard is CXS 108-1981. Calculated as total As in mg/l.
Rice, husked	0.35	Whole commodity	The ML is for inorganic arsenic (As-in). Countries or importers may decide to use their own screening when applying the ML for As-in in rice by analyzing total arsenic (As-tot) in rice. If the As-tot concentration is below or equal to the ML for As-in, no further testing is required, and the sample is determined to be compliant with the ML. If the As-tot concentration is above the ML for As-in, follow-up testing shall be conducted to determine if the As-in concentration is above the ML.

Commodity/Product Name	Maximum Level (ML) mg/kg	Portion of the Commodity/Product to which the ML applies	Notes/Remarks
Rice, polished	0.2	Whole commodity	The ML is for inorganic arsenic (As-in). Countries or importers may decide to use their own screening when applying the ML for As-in in rice by analyzing total arsenic (As-tot) in rice. If the As-tot concentration is below or equal to the ML for As-in, no further testing is required, and the sample is determined to be compliant with the ML. If the As-tot concentration is above the ML for As-in, follow-up testing shall be conducted to determine if the As-in concentration is above the ML.
Salt, food grade	0.5		Relevant Codex commodity standard is CXS 150-1985.

CADMIUM

Reference to JECFA: 16 (1972), 33 (1988), 41 (1993), 55 (2000), 61 (2003), 64 (2005), 73 (2010)

Toxicological guidance value: In view of the long half-life of cadmium, daily ingestion in food has a small or even a negligible effect on overall exposure. In order to assess long- or short-term risks to health due to cadmium exposure, dietary intake should be assessed over months, and tolerable intake should be assessed over a period of at least 1 month. To encourage this view, at the 73rd meeting (2010) the JECFA decided to express the tolerable intake as a monthly value in the form of a provisional tolerable monthly intake (PTMI) and established a PTMI of 25 µg/kg bw.

Contaminant definition: Cadmium, total

Synonyms: Cd

Related code of practice: *Code of Practice for Source Directed Measures to Reduce Contamination of Foods with Chemicals (CXC 49-2001)*

Commodity/Product Name	Maximum Level (ML) mg/kg	Portion of the Commodity/Product to which the ML applies	Notes/Remarks
Brassica vegetables	0.05	Head cabbages and kohlrabi: whole commodity as marketed, after removal of obviously decomposed or withered leaves. Cauliflower and broccoli: flower heads (immature inflorescence only). Brussels sprouts: "buttons" only.	The ML does not apply to Brassica leafy vegetables.
Bulb vegetables	0.05	Bulb/dry onions and garlic: whole commodity after removal of roots and adhering soil and whatever parchment skin is easily detached.	
Fruiting vegetables	0.05	Whole commodity after removal of stems. Sweet corn and fresh corn: kernels plus cob without husk.	The ML does not apply to tomatoes and edible fungi.
Leafy vegetables	0.2	Whole commodity as usually marketed, after removal of obviously decomposed or withered leaves.	The ML also applies to Brassica leafy vegetables.
Legume vegetables	0.1	Whole commodity as consumed. The succulent forms may be consumed as whole pods or as the shelled product.	
Pulses	0.1	Whole commodity	The ML does not apply to soya bean (dry).

Commodity/Product Name	Maximum Level (ML) mg/kg	Portion of the Commodity/Product to which the ML applies	Notes/Remarks
Root and tuber vegetables	0.1	Whole commodity after removing tops. Remove adhering soil (e.g. by rinsing in running water or by gentle brushing of the dry commodity). Potato: peeled potato.	The ML does not apply to celeriac.
Stalk and stem vegetables	0.1	Whole commodity as marketed after removal of obviously decomposed or withered leaves. Rhubarb: leaf stems only. Globe artichoke: flower head only. Celery and asparagus: remove adhering soil.	
Cereal grains	0.1	Whole commodity	The ML does not apply to buckwheat, cañihua, quinoa, wheat and rice.
Rice, polished	0.4	Whole commodity	
Wheat	0.2	Whole commodity	The ML applies to common wheat, durum wheat, spelt and emmer.
Marine bivalve mollusks	2	Whole commodity after removal of shell.	The ML applies to clams, cockles and mussels but not to oysters and scallops.
Cephalopods	2	Whole commodity after removal of shell.	The ML applies to cuttlefishes, octopuses and squids without viscera.
Natural mineral waters	0.003		Relevant Codex commodity standard is CXS 108-1981. The ML is expressed in mg/l.
Salt, food grade	0.5		Relevant Codex commodity standard is CXS 150-1985.
Chocolate containing or declaring $\geq 50\%$ to $< 70\%$ total cocoa solids on a dry matter basis	0.8	Whole commodity as prepared for wholesale or retail distribution	Including sweet chocolate, Gianduja chocolate, semi – bitter table chocolate, Vermicelli chocolate / chocolate flakes, and bitter table chocolate.
Chocolate containing or declaring $\geq 70\%$ total cocoa solids on a dry matter basis	0.9	Whole commodity as prepared for wholesale or retail distribution	Including sweet chocolate, Gianduja chocolate, semi – bitter table chocolate, Vermicelli chocolate / chocolate flakes, and bitter table chocolate.

LEAD

Reference to JECFA: 10 (1966), 16 (1972), 22 (1978), 30 (1986), 41 (1993), 53 (1999), 73 (2010)

Toxicological guidance value: Based on the dose–response analyses, at the 73rd meeting (2010), JECFA estimated that the previously established PTWI of 25 µg/kg bw is associated with a decrease of at least 3 intelligence quotient (IQ) points in children and an increase in systolic blood pressure of approximately 3 mmHg (0.4 kPa) in adults. While such effects may be insignificant at the individual level, these changes are important when viewed as a shift in the distribution of IQ or blood pressure within a population. The JECFA therefore concluded that the PTWI could no longer be considered health protective and withdrew it.

Contaminant definition: Lead, total

Synonyms: Pb

Related code of practice: *Code of Practice for the Prevention and Reduction of Lead Contamination in Foods (CXC 56-2004)*
Code of Practice for Source Directed Measures to Reduce Contamination of Foods with Chemicals (CXC 49-2001)

Commodity/Product Name	Maximum Level (ML) mg/kg	Portion of the Commodity/Product to which the ML applies	Notes/Remarks
Berries and other small fruits	0.1	Whole commodity after removal of caps and stems.	The ML does not apply to cranberry, currant and elderberry.
Cranberry	0.2	Whole commodity after removal of caps and stems.	
Currants	0.2	Fruit with stem.	
Elderberry	0.2	Whole commodity after removal of caps and stems.	
Fruits	0.1	Whole commodity. Berries and other small fruits: whole commodity after removal of caps and stems. Pome fruits: whole commodity after removal of stems. Stone fruits, dates and olives: whole commodity after removal of stems and stones, but the level calculated and expressed on the whole commodity without stem. Pineapple: whole commodity after removal of crown. Avocado, mangos and similar fruit with hard seeds: whole commodity after removal of stone but calculated on whole fruit.	The ML does not apply to cranberry, currant and elderberry.

Commodity/Product Name	Maximum Level (ML) mg/kg	Portion of the Commodity/Product to which the ML applies	Notes/Remarks
Brassica vegetables	0.1	Head cabbages and kohlrabi: whole commodity as marketed, after removal of obviously decomposed or withered leaves. Cauliflower and broccoli: flower heads (immature inflorescence only). Brussels sprouts: "buttons" only.	The ML does not apply to kale and leafy Brassica vegetables.
Bulb vegetables	0.1	Bulb/dry onions and garlic: whole commodity after removal of roots and adhering soil and whatever parchment skin is easily detached.	
Fruiting vegetables	0.05	Whole commodity after removal of stems Sweet corn and fresh corn: kernels plus cob without husk.	The ML does not apply to fungi and mushrooms.
Leafy vegetables	0.3	Whole commodity as usually marketed, after removal of obviously decomposed or withered leaves.	The ML applies to leafy Brassica vegetables but does not apply to spinach.
Legume vegetables	0.1	Whole commodity as consumed. The succulent forms may be consumed as whole pods or as the shelled product.	
Fresh farmed mushrooms (common mushrooms (<i>Agaricus bisporous</i>), shiitake mushrooms (<i>Lentinula edodes</i>), and oyster mushrooms (<i>Pleurotus ostreatus</i>))	0.3	Whole commodity	Relevant Codex commodity standard is CXS 38-1981.
Pulses	0.1	Whole commodity	
Root and tuber vegetables	0.1	Whole commodity after removing tops. Remove adhering soil (e.g. by rinsing in running water or by gentle brushing of the dry commodity). Potato: peeled potato.	

Commodity/Product Name	Maximum Level (ML) mg/kg	Portion of the Commodity/Product to which the ML applies	Notes/Remarks
Canned fruits	0.1	The ML applies to the product as consumed.	Relevant Codex commodity standards are CXS 242-2003, CXS 254-2007, CXS 78-1981, CXS 159-1987, CXS 42-1981, CXS 99-1981, CXS 60-1981, CXS 62-1981
Jams, jellies and marmalades	0.4		Relevant Codex commodity standard is CXS 296-2009 (for jams and jellies only).
Mango chutney	0.4		Relevant Codex commodity standard is CXS 160-1987.
Canned vegetables	0.1	The ML applies to the product as consumed.	Relevant Codex commodity standard is CXS 297-2009.
Preserved tomatoes	0.05		Relevant Codex commodity standard is CXS 13-1981. In order to consider the concentration of the product, the determination of the maximum levels for contaminants shall consider the natural total soluble solids, the reference value being 4.5 for fresh fruit.
Table olives	0.4		Relevant Codex commodity standard is CXS 66-1981.
Pickled cucumbers (cucumber pickles)	0.1		Relevant Codex commodity standard is CXS 115-1981.
Canned chestnuts and canned chestnuts puree	0.05		Relevant Codex commodity standard is CXS 145-1985.
Fruit juices	0.03	Whole commodity (not concentrated) or commodity reconstituted to the original juice concentration, ready to drink. The ML applies also to nectars, ready to drink.	The ML does not apply to juices exclusively from berries and other small fruit. Relevant Codex commodity standard is CXS 247-2005.
Fruit juices obtained exclusively from berries and other small fruits	0.05	Whole commodity (not concentrated) or commodity reconstituted to the original juice concentration, ready to drink. The ML applies also to nectars, ready to drink.	The ML does not apply to grape juice. Relevant Codex commodity standard is CXS 247-2005.
Grape juice	0.04	Whole commodity (not concentrated) or commodity reconstituted to the original juice concentration, ready to drink. The ML applies also to nectars, ready to drink.	Relevant Codex commodity standard is CXS 247-2005.
Cereal grains	0.2	Whole commodity	The ML does not apply to buckwheat cañihua and quinoa.

Commodity/Product Name	Maximum Level (ML) mg/kg	Portion of the Commodity/Product to which the ML applies	Notes/Remarks
Infant formula, formula for special medical purposes intended for infants and follow-up formula	0.01	Whole commodity	Relevant Codex commodity standards are CXS 72-1981 and CXS 156-1987. The ML applies to formula as consumed.
Fish	0.3	Whole commodity (in general after removing the digestive tract)	
Meat of cattle, pigs and sheep	0.1	Whole commodity (without bones)	The ML also applies to fat from the meat.
Meat and fat of poultry	0.1	Whole commodity (without bones)	
Cattle, edible offal of	0.2	Whole commodity.	Edible offal means such offal as have been passed as fit for human consumption, but not including lungs, ears, scalp, snout (including lips and muzzle), mucous membranes, sinews, genital system, udders, intestines and urinary bladder (CXM 4-1989). The ML applies to the following edible offal: Brain, head, heart, kidney, liver, tongue and stomach.
Pig, edible offal of	0.15	Whole commodity.	Edible offal means such offal as have been passed as fit for human consumption, but not including lungs, ears, scalp, snout (including lips and muzzle), mucous membranes, sinews, genital system, udders, intestines and urinary bladder (CXM 4-1989). The ML applies to the following edible offal: Blood, heart, kidney, liver and tongue.
Poultry, edible offal of	0.1	Whole commodity.	Poultry edible offal are such edible tissues and organs, other than poultry meat and poultry fat, from slaughtered poultry as have been passed fit for human consumption (CXM 4-1989). The ML applies to the following edible offal: Heart, kidney, liver, stomach and thymus.
Edible fats and oils	0.08	Whole commodity as prepared for wholesale or retail distribution.	Relevant Codex commodity standards are CXS 19-1981, CXS 33-1981, CXS 210-1999, CXS 211-1999 and CXS 329-2017.
Fat spreads and blended spreads	0.04	Whole commodity as prepared for wholesale or retail distribution.	Relevant Codex commodity standard is CXS 256-2007.

Commodity/Product Name	Maximum Level (ML) mg/kg	Portion of the Commodity/Product to which the ML applies	Notes/Remarks
Milk	0.02	Whole commodity	Milk is the normal mammary secretion of milking animals obtained from one or more milkings without either addition to it or extraction from it, intended for consumption as liquid milk or for further processing. A concentration factor applies to partially or wholly dehydrated milks.
Secondary milk products	0.02	Whole commodity	The ML applies to the food as consumed.
Natural mineral waters	0.01		Relevant Codex commodity standard is CXS 108-1981. The ML is expressed in mg/l.
Salt, food grade	1	Whole commodity as prepared for wholesale or retail distribution	Relevant Codex commodity standard is CXS 150-1985. Excluding salt from marshes.
Wine (wine and fortified / liqueur wine)	0.2	Whole commodity	The ML applies to wines and fortified / liqueur wines made from grapes harvested before (CAC42, July 2019)
Wine	0.1	Whole commodity	The ML applies to wine made from grapes harvested after the date of adoption (CAC42, July 2019).
Fortified / Liqueur wine	0.15	Whole commodity	The ML applies to wine made from grapes harvested after the date of adoption (CAC42, July 2019).

MERCURY

Reference to JECFA:	10 (1966), 14 (1970), 16 (1972), 22 (1978), 72 (2010)
Toxicological guidance value:	At the 72 nd meeting (2010), JECFA established a PTWI for inorganic mercury of 4 µg/kg bw. The previous PTWI of 5 µg/kg bw for total mercury, established at the sixteenth meeting, was withdrawn. The new PTWI for inorganic mercury was considered applicable to dietary exposure to total mercury from foods other than fish and shellfish. For dietary exposure to mercury from these foods the previously established PTWI for methyl mercury should be applied.
Contaminant definition:	Mercury, Total
Synonyms:	Hg
Related code of practice:	<i>Code of Practice for Source Directed Measures to Reduce Contamination of Foods with Chemicals (CXC 49-2001)</i>

Commodity/Product Name	Maximum Level (ML) mg/kg	Portion of the Commodity/Product to which the ML applies	Notes/Remarks
Natural mineral waters	0.001		Relevant Codex commodity standard is CXS 108-1981. The ML is expressed in mg/l.
Salt food grade	0.1		Relevant Codex commodity standard is CXS 150-1985.

METHYLMERCURY IN CERTAIN FISH SPECIES

Reference to JECFA: 22 (1978), 33 (1988), 53 (1999), 61 (2003), 67 (2006)

Toxicological guidance value: PTWI 0.0016 mg/kg bw (2003, confirmed in 2006)

Contaminant definition: Methylmercury

Related code of practice: *Code of Practice for Source Directed Measures to Reduce Contamination of Foods with Chemicals (CXC 49-2001)*

Commodity / Product Name	Maximum Level (ML) (mg/kg)	Portion of the Commodity/Product to which the ML Applies	Notes/Remarks
Tuna	1.2	Whole commodity fresh or frozen (in general after removing the digestive tract)	Countries or importers may decide to use their own screening when applying the ML for methylmercury in fish by analyzing total mercury in fish. If the total mercury concentration is below or equal to the ML for methylmercury, no further testing is required, and the sample is determined to be compliant with the ML. If the total mercury concentration is above the ML for methylmercury, follow-up testing shall be conducted to determine if the methylmercury concentration is above the ML. The ML also applies to fresh or frozen fish intended for further processing. Countries should consider developing nationally relevant consumer advice for women of childbearing age and young children to supplement the ML.
Alfonsino	1.5		
Marlin	1.7		
Shark	1.6		

TIN

Reference to JECFA:	10 (1966), 14 (1970), 15 (1971), 19 (1975), 22 (1978), 26 (1982), 33 (1988), 55 (2000), 64 (2005)
Toxicological guidance value:	PTWI 14 mg/kg bw (1988, expressed as Sn; includes tin from food additive uses; maintained in 2000)
Contaminant definition:	Tin, total (Sn-tot) when not otherwise mentioned; inorganic tin (Sn-in); or other specification
Synonyms:	Sn
Related code of practice:	<i>Code of Practice for the Prevention and Reduction of Inorganic Tin Contamination in Canned Foods (CXC 60-2005)</i> <i>Code of Practice for Source Directed Measures to Reduce Contamination of Foods with Chemicals (CXC 49-2001)</i>

Commodity/Product Name	Maximum Level (ML) mg/kg	Portion of the Commodity/Product to which the ML applies	Notes/Remarks
Canned foods (other than beverages)	250		The ML does not apply to non-tinplate canned cooked cured chopped meat, cooked cured ham, cooked cured pork shoulder, corned beef and luncheon meat. Relevant Codex commodity standards include CXS 62-1981, CXS 254-2007, CXS 296-2009, CXS 242-2003, CXS 297-2009, CXS 78-1981, CXS 159-1987, CXS 42-1981, CXS 60-1981, CXS 99-1981, CXS 160-1987, CXS 66-1981, CXS 13-1981, CXS 115-1981, CXS 57-1981, CXS 145-1981, CXS 98-1981, CXS 96-1981, CXS 97-1981, CXS 88-1981, CXS 89-1981.
Canned beverages	150		Relevant Codex commodity standards include CXS 247-2005.
Cooked cured chopped meat	50		The ML applies to products in containers other than tinplate containers. Relevant Codex commodity standard is CXS 98-1981.
Cooked cured ham	50		The ML applies to products in containers other than tinplate containers. Relevant Codex commodity standard is CXS 96-1981.
Cooked cured pork shoulder	50		The ML applies to products in containers other than tinplate containers. Relevant Codex commodity standard is CXS 97-1981.
Corned beef	50		The ML applies to products in containers other than tinplate containers. Relevant Codex commodity standard is CXS 88-1981.
Luncheon meat	50		The ML applies to products in containers other than tinplate containers. Relevant Codex commodity standard is CXS 89-1981.

CHAPTER

03

Radionuclides



RADIONUCLIDES

TABLE 1

Commodity/Product Name	Guideline Level (GL) (Bq/kg)	Representative radionuclides	Portion of the Commodity/Product to which the GL applies	Notes/Remarks
Infant foods	1	Pu-238, Pu-239, Pu-240, Am-241		The GL applies to foods intended for consumption by infants.
Infant foods	100	Sr-90, Ru-106, I-129, I-131, U-235		The GL applies to foods intended for consumption by infants.
Infant foods	1 000	S-35 (*), Co-60, Sr-89, Ru-103, Cs-134, Cs-137, Ce-144, Ir-192		The GL applies to foods intended for consumption by infants.
Infant foods	1 000	H-3(**), C-14, Tc-99		The GL applies to foods intended for consumption by infants.
Foods other than infant foods	10	Pu-238, Pu-239, Pu-240, Am-241		
Foods other than infant foods	100	Sr-90, Ru-106, I-129, I-131, U-235		
Foods other than infant foods	1 000	S-35 (*), Co-60, Sr-89, Ru-103, Cs-134, Cs-137, Ce-144, Ir-192		
Foods other than infant foods	10 000	H-3(**), C-14, Tc-99		

(*) This represents the value for organically bound sulphur

(**) This represents the value for organically bound tritium

Scope: The Guideline Levels apply to radionuclides contained in foods destined for human consumption and traded internationally, which have been contaminated following a nuclear or radiological emergency¹. These guideline levels apply to food after reconstitution or as prepared for consumption, i.e., not to dried or concentrated foods, and are based on an intervention exemption level of 1 mSv in a year.

Application: As far as generic radiological protection of food consumers is concerned, when radionuclide levels in food do not exceed the corresponding Guideline Levels, the food should be considered as safe for human consumption. When the Guideline Levels are exceeded, national governments shall decide whether and under what circumstances the food should be distributed within their territory or jurisdiction. National governments may wish to adopt different values for internal use within their own territories where the assumptions concerning food distribution that have been made to derive the Guideline Levels may not apply, e.g., in the case of wide-spread radioactive contamination. For foods that are consumed in small quantities, such as spices, that represent a small percentage of total diet and hence a small addition to the total dose, the Guideline Levels may be increased by a factor of 10.

¹ For the purposes of this document, the term "emergency" includes both accidents and malevolent actions.

Radionuclides: The Guideline Levels do not include all radionuclides. Radionuclides included are those important for uptake into the food chain; are usually contained in nuclear installations or used as a radiation source in large enough quantities to be significant potential contributors to levels in foods, and; could be accidentally released into the environment from typical installations or might be employed in malevolent actions. Radionuclides of natural origin are generally excluded from consideration in this document.

In the Table, the radionuclides are grouped according to the guideline levels rounded logarithmically by orders of magnitude. Guideline levels are defined for two separate categories “infant foods” and “other foods”. This is because, for a number of radionuclides, the sensitivity of infants could pose a problem. The guideline levels have been checked against age-dependent ingestion dose coefficients defined as committed effective doses per unit intake for each radionuclide, which are taken from the “International Basic Safety Standards” (IAEA, 1996)².

Multiple radionuclides in foods: The guideline levels have been developed with the understanding that there is no need to add contributions from radionuclides in different groups. Each group should be treated independently. However, the activity concentrations of each radionuclide within the same group should be added together³.

² Food and Agriculture Organization of the United Nations, International Atomic Energy Agency, International Labour Office, OECD Nuclear Energy Agency, Pan American Health Organization, World Health Organization (1996) International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources, IAEA, Vienna.

³ For example, if ¹³⁴Cs and ¹³⁷Cs are contaminants in food, the guideline level of 1 000 Bq/kg refers to the summed activity of both these radionuclides.

SCIENTIFIC JUSTIFICATION FOR THE GUIDELINE LEVELS FOR RADIONUCLIDES IN FOODS CONTAMINATED FOLLOWING A NUCLEAR OR RADIOLOGICAL EMERGENCY

The Guideline Levels for Radionuclides in Foods and specifically the values presented in Table 1 above are based on the following general radiological considerations and experience of application of the existing international and national standards for control of radionuclides in food.

Significant improvements in the assessment of radiation doses resulting from the human intake of radioactive substances have become available since the Guideline Levels were issued by the Codex Alimentarius Commission in 1989¹ (CXG 5-1989).

Infants and adults: The levels of human exposure resulting from consumption of foods containing radionuclides listed in Table 1 at the suggested guideline levels have been assessed both for infants and adults and checked for compliance with the appropriate dose criterion.

In order to assess public exposure and the associated health risks from intake of radionuclides in food, estimates of food consumption rates and ingestion dose coefficients are needed. It is assumed that 550 kg of food is consumed by an adult in a year. The value of infant food and milk consumption during first year of life used for infant dose calculation equal to 200 kg is based on contemporary human habit assessments. The most conservative values of the radionuclide-specific and age-specific ingestion dose coefficients, i.e. relevant to the chemical forms of radionuclides which are most absorbed from the gastro-intestinal tract and retained in body tissues, are taken from the IAEA.

Radiological criterion: The appropriate radiological criterion, which has been used for comparison with the dose assessment data below, is a generic intervention exemption level of around 1 mSv for individual annual dose from radionuclides in major commodities, e.g. food, recommended by the International Commission on Radiological Protection as safe for members of the public.

Naturally occurring radionuclides: Radionuclides of natural origin are ubiquitous and as a consequence are present in all foodstuffs to varying degrees. Radiation doses from the consumption of foodstuffs typically range from a few tens to a few hundreds of microsieverts in a year. In essence, the doses from these radionuclides when naturally present in the diet are unamenable to control; the resources that would be required to affect exposures would be out of proportion to the benefits achieved for health. These radionuclides are excluded from consideration in this document as they are not associated with emergencies.

One-year exposure assessment: It is conservatively assumed that during the first year after major environmental radioactive contamination caused by a nuclear or radiological emergency it might be difficult to readily replace foods imported from contaminated regions with foods imported from unaffected areas. According to FAO statistical data the mean fraction of major foodstuff quantities imported by all the countries worldwide is 0.1. The values in Table 1 as regards foods consumed by infants and the general population have been derived to ensure that if a country continues to import major foods from areas contaminated with radionuclides, the mean annual internal dose of its inhabitants will not exceed around 1 mSv (see Annex 2). This conclusion might not apply for some radionuclides if the fraction of contaminated food is found to be higher than 0.1, as might be the case for infants who have a diet essentially based on milk with little variety.

Long-term exposure assessment: Beyond one year after the emergency the fraction of contaminated food placed on the market will generally decrease as a result of national restrictions (withdrawal from the market), changes to other produce, agricultural countermeasures and decay.

Experience has shown that in the long term the fraction of imported contaminated food will decrease by a factor of a hundred or more. Specific food categories, e.g. wild forest products, may show persistent or even increasing levels of contamination. Other categories of food may gradually be exempted from controls. Nevertheless, it must be anticipated that it may take many years before levels of individual exposure as a result of contaminated food could be qualified as negligible.

¹ The Codex Alimentarius Commission at its 18th Session (Geneva 1989) adopted Guideline Levels for Radionuclides in Foods Following Accidental Nuclear Contamination for Use in International Trade (CXG 5-1989) applicable for six radionuclides (⁹⁰Sr, ¹³¹I, ¹³⁷Cs, ¹³⁴Cs, ²³⁹Pu and ²⁴¹Am) during one year after the nuclear accident.

Annex 2

ASSESSMENT OF HUMAN INTERNAL EXPOSURE WHEN THE GUIDELINE LEVELS ARE APPLIED

For the purpose of assessment of the mean public exposure level in a country caused by the import of food products from foreign areas with residual radioactivity, in implementing the present guideline levels the following data should be used: annual food consumption rates for infants and adults, radionuclide- and age-dependent ingestion dose coefficients and the import/production factors. When assessing the mean internal dose in infants and adults it is suggested that due to monitoring and inspection the radionuclide concentration in imported foods does not exceed the present guideline levels. Using cautious assessment approach, it is considered that all the foodstuffs imported from foreign areas with residual radioactivity are contaminated with radionuclides at the present guideline levels.

Then, the mean internal dose of the public, E (mSv), due to annual consumption of imported foods containing radionuclides can be estimated using the following formula:

$$E = GL(A) M(A) e_{ing}(A) IPF$$

where:

$GL(A)$ is the Guideline Level (Bq/kg)

$M(A)$ is the age-dependent mass of food consumed per year (kg)

$e_{ing}(A)$ is the age-dependent ingestion dose coefficient (mSv/Bq)

IPF is the import/production factor¹ (dimensionless)

Assessment results presented in Table 2 both for infants and adults demonstrate that for all the twenty radionuclides doses from consumption of imported foods during the 1st year after major radioactive contamination do not exceed 1 mSv. It should be noted that the doses were calculated on the basis of a value for the IPF equal to 0.1 and that this assumption may not always apply, in particular to infants who have a diet essentially based on milk with little variety.

It should be noted that for ²³⁹Pu as well as for a number of other radionuclides the dose estimate is conservative. This is because elevated gastro-intestinal tract absorption factors and associated ingestion dose coefficients are applied for the whole first year of life whereas this is valid mainly during suckling period recently estimated by ICRP to be as average first six months of life. For the subsequent six months of the first year of life the gut absorption factors are much lower. This is not the case for ³H, ¹⁴C, ³⁵S, iodine and caesium isotopes.

As an example, dose assessment for ¹³⁷Cs in foods is presented below for the first year after the area contamination with this nuclide.

For adults: $E = 1\,000 \text{ Bq/kg} \cdot 550 \text{ kg} \cdot 1.3 \cdot 10^{-5} \text{ mSv/Bq} \cdot 0.1 = 0.7 \text{ mSv}$;

For infants: $E = 1\,000 \text{ Bq/kg} \cdot 200 \text{ kg} \cdot 2.1 \cdot 10^{-5} \text{ mSv/Bq} \cdot 0.1 = 0.4 \text{ mSv}$

¹ The import/production factor (***IPF***) is defined as the ratio of the amount of foodstuffs imported per year from areas contaminated with radionuclides to the total amount produced and imported annually in the region or country under consideration.

TABLE 2

**ASSESSMENT OF EFFECTIVE DOSE FOR INFANTS AND ADULTS FROM INGESTION
OF IMPORTED FOODS IN A YEAR**

Radionuclide	Guideline Level (Bq/kg)		Effective dose (mSv)	
	Infant foods	Other foods	1 st year after major contamination	
			Infants	Adults
²³⁸ Pu	1	10	0.08	0.1
²³⁹ Pu			0.08	0.1
²⁴⁰ Pu			0.08	0.1
²⁴¹ Am			0.07	0.1
⁹⁰ Sr	100	100	0.5	0.2
¹⁰⁶ Ru			0.2	0.04
¹²⁹ I			0.4	0.6
¹³¹ I			0.4	0.1
²³⁵ U			0.7	0.3
³⁵ S*	1 000	1 000	0.2	0.04
⁶⁰ Co			1	0.2
⁸⁹ Sr			0.7	0.1
¹⁰³ Ru			0.1	0.04
¹³⁴ Cs			0.5	1
¹³⁷ Cs			0.4	0.7
¹⁴⁴ Ce			1	0.3
¹⁹² Ir			0.3	0.08
³ H**	1 000	10 000	0.002	0.02
¹⁴ C			0.03	0.3
⁹⁹ Tc			0.2	0.4

* This represents the value for organically bound sulphur

** This represents the value for organically bound tritium

See for "Scientific Justification for the Guideline Levels" (Annex 1) and the "Assessment of Human Internal Exposure when the Guideline Levels are Applied" (Annex 2)

CHAPTER

04

Others



ACRYLONITRILE

Reference to JECFA: 28 (1984)
 Toxicological guidance value: Provisional Acceptance (1984, the use of food-contact materials from which acrylonitrile may migrate is provisionally accepted on condition that the amount of the substance migrating into food is reduced to the lowest level technologically attainable)
 Contaminant definition: acrylonitrile (monomer)
 Synonyms: 2-Propenenitrile; vinyl cyanide (VCN); cyanoethylene; abbreviations, AN, CAN.
 Related code of practice: *Code of Practice for Source Directed Measures to Reduce Contamination of Foods with Chemicals (CXC 49-2001)*

Commodity/Product Name	Guideline Level (GL) mg/kg	Portion of the Commodity/Product to which the ML applies	Notes/Remarks
Food	0.02		

CHLOROPROPANOLS

Reference to JECFA:	41 (1993; for 1,3-dichloro-2-propanol only), 57 (2001), 67 (2006)
Toxicological guidance value:	PMTDI 0.002 mg/kg bw (2001, for 3-chloro-1,2-propanediol); maintained in 2006. Establishment of tolerable intake was considered to be inappropriate for 1,3-dichloro-2-propanol because of the nature of the toxicity (tumorigenic in various organs in rats and the contaminant can interact with chromosomes and/or DNA). BMDL 10 cancer, 3.3 mg/kg bw/day (for 1,3-dichloro-2-propanol); MOE, 65 000 (general population), 2 400 (high level intake, including young children).
Contaminant definition:	3-MCPD
Synonyms:	Two substances are the most important members of this group: 3-monochloropropane-1,2-diol (3-MCPD, also referred to as 3-monochloro-1,2-propanediol) and 1,3-dichloro-2-propanol (1,3-DCP).
Related code of practice:	<i>Code of Practice for the Reduction of 3-Monochloropropane-1,2-diol (3-MCPD) during the production of Acid-Hydrolyzed Vegetable Proteins (Acid-HVPs) and Products that Contain Acid-HVPs (CXC 64–2008).</i>

Commodity/Product Name	Maximum Level (ML) mg/kg	Portion of the Commodity/Product to which the ML applies	Notes/Remarks
Liquid condiments containing acid hydrolyzed vegetable proteins	0.4		The ML does not apply to naturally fermented soy sauce.

HYDROCYANIC ACID

Reference to JECFA:	39 (1992), 74 (2011)
Toxicological guidance value:	ARfD 0.09 mg/kg bw as cyanide (2011, this cyanide-equivalent ARfD applies only to foods containing cyanogenic glycosides as the main source of cyanide) PMTDI 0.02 mg/kg bw as cyanide (2011)
Contaminant definition:	See explanatory notes in the column "Notes/Remarks"
Synonyms:	HCN
Related code of practice:	<i>Code of Practice for the Reduction of Hydrocyanic Acid (HCN) in Cassava and Cassava products (CXC 73-2013)</i>

Commodity/Product Name	Maximum Level (ML) mg/kg	Portion of the Commodity/Product to which the ML applies	Notes/Remarks
Gari	2	Whole commodity	The ML is expressed as free hydrocyanic acid. Relevant Codex commodity standards include CXS 151-1989.
Cassava flour	10		The ML is expressed as total hydrocyanic acid Relevant Codex commodity standards include CXS 176-1989.

MELAMINE

Reference to JECFA: FAO/WHO Expert Meeting (2008)
 Toxicological guidance value: TDI 0.2 mg/kg bw (2008)
 Contaminant definition: Melamine

Commodity/Product Name	Maximum Level (ML) mg/kg	Portion of the Commodity/Product to which the ML applies	Notes/Remarks
Food (other than infant formulae) and feed	2.5		<p>The ML applies to food other than infant formula.</p> <p>The ML applies to levels of melamine resulting from its non-intentional and unavoidable presence in feed and food.</p> <p>The ML does not apply to feed and food for which it can be proven that the level of melamine higher than 2.5 mg/kg is the consequence of:</p> <ul style="list-style-type: none"> • Authorised use of cyromazine as insecticide. The melamine level shall not exceed the level of cyromazine. • Migration from food contact materials taking account of any nationally authorized migration limit. <p>The ML does not apply to melamine that could be present in the following feed ingredients / additives: guanidine acetic acid (GAA), urea and biuret, as a result of normal production processes.</p>
Powdered infant formula	1		
Liquid infant formula	0.15		The ML applies to liquid infant formula as consumed.

VINYL CHLORIDE MONOMER

Reference to JECFA: 28 (1984)

Toxicological guidance value: Provisional Acceptance (1984, the use of food-contact materials from which vinyl chloride may migrate is provisionally accepted, on condition that the amount of the substance migrating into food is reduced to the lowest level technologically achievable.

Contaminant definition: Vinylchloride monomer

Synonyms: Monochloroethene, chloroethylene; abbreviation VC or VCM

Related code of practice: *Code of Practice for Source Directed Measures to Reduce Contamination of Foods with Chemicals (CXC 49-2001)*

Commodity/Product Name	Guideline Level (GL) mg/kg	Portion of the Commodity/Product to which the GL Applies	Notes/Remarks
Food	0.01		The GL in food packaging material is 1.0 mg/kg.