

# codex alimentarius commission



FOOD AND AGRICULTURE  
ORGANIZATION  
OF THE UNITED NATIONS

WORLD  
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**CX 5/15**

**CL 2004/1-FO  
January 2004**

**TO:** Codex Contact Points  
Interested International Organisations

**FROM:** Secretary, Codex Alimentarius Commission, Joint FAO/WHO Food Standards Programme, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy

**SUBJECT:** **Draft Standard for Fat Spreads and Blended Spreads – request for comments on Food Additive Provisions**

**DEADLINE:** **30 April 2004**

**COMMENTS:**

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## INTRODUCTION

1. The 18<sup>th</sup> session of the Codex Committee on Fats and Oils (CCFO) agreed (ALINORM 03/17, para. 42) on the following general principles for the food additives section of the standard for fat spreads and blended spreads:
  - a. The food additive section should refer to the Codex General Standard for Food Additives (GSFA),
  - b. Only those additives that have been assigned a full ADI by the Joint FAO/WHO Expert Committee on Food Additives (JECFA) and an INS number should be considered for inclusion in the standard, and
  - c. The food additive section should contain the names of the functional classes as they appear in the INS system.
2. Interested parties were requested (CL 2003/7-FO) to consider the current food additive provisions at Step 6 and the amendments suggested by the *ad hoc* Working Group (WG) during the Committee meeting (ALINORM 03/17, Appendix IV). Comments to CL 2003/7-FO were requested no later than 31 May 2003.
3. The 18<sup>th</sup> CCFO also established an electronic Working Group (eWG), under the chairmanship of The United States and open to all member countries, to consider the comments received and prepare a revised version of the food additives section of the draft standard for fat spreads and blended spreads (Draft Standard) for circulation and comment by March 2004.

4. The following Codex Member Countries and International Observer Organizations responded to CL 2003/7-FO and expressed interest in participating in the eWG: Brazil, Canada, Poland, United States of America, European Union, and the International Federation of Margarine Associations.
5. A working paper was prepared and distributed to the eWG in July 2003. The working paper included tables comparing the present food additive provisions of the Draft Standard with the relevant provisions of the GSFA.
6. Based on comments from the eWG, a second working paper was prepared and distributed to the eWG for comment in August 2003. The second working paper included revised tables of draft recommended food additive provisions.
7. In November 2003, a draft of this Circular Letter was forwarded to the eWG for final comment. This CL represents the completion of the eWG's mandate from the Committee.

## **BACKGROUND**

8. The "Proposed Draft Revised Preamble to the Codex General Standard for Food Additives" (CX/FAC 03/6) summarizes the development of the GSFA and its organization, elaborates on the criteria in the Preamble for establishing food additive provisions in the GSFA, and discusses the relationship between the GSFA and Codex Commodity Standards. Recommendations are made for revision of the sections in the Codex Procedural Manual on food additives and on the relationships between Commodity Committees and General Subject Committees in order to bring them into harmony with the Preamble to the GSFA.
9. The Codex Procedural Manual (12<sup>th</sup> ed, p.84; 13<sup>th</sup> ed, p. 96 at <ftp://ftp.fao.org/codex/PM/Manual13e.pdf>) states "When establishing provisions for food additives, Codex committees should follow the General Principles for the Use of Food Additives [XOT 01-1972] and the Preamble of the General Standard for Food Additives." Section 1.1 of the Preamble to the GSFA states that only additives evaluated by JECFA and found acceptable for use in foods are to be included in the GSFA. The recommended revision of Section 1.2 of the Preamble states (CX/FAC 03/6, para. 100) that:

"This standard [the GSFA] sets forth the conditions under which permitted 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 Commodity standard and this standard [the GSFA]. 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."
10. In this light, the eWG has elaborated revised food additive provisions (Annex 1). Annex 1 takes into account the current provisions in the Draft Standard (ALINORM 03/17, Appendix IV), the decisions from the 18<sup>th</sup> Session of the CCFO (ALINORM 03/17, paras. 42 and 46), the comments of the *ad hoc* WG at the 18<sup>th</sup> Session (ALINORM 03/17, Appendix IV), and the issues considered by the eWG (see below).

## **PROPOSED ADDITIVE PROVISIONS**

11. Table A of Annex 1 refers to uses of flavours. No change has been made to the text in the Draft Standard. Table B of the annex contains all other food additive provisions. Table B has 4 columns: Column 1 gives the INS number; column 2 lists the name of the additive; column 3 lists the proposed Maximum Level (ML) for use; and column 4 gives the current status of the GSFA provisions in the Codex step process corresponding to the proposed MLs in column 3. Proposed MLs with no status in the GSFA are indicated by "---" and the relevant GSFA provisions (ML and food category) are included with their status. If the Commission has adopted a provision, this is noted.
12. Additive names are consistent with the main entries in the GSFA. For additives belonging to a group for which the JECFA has assigned a group ADI (Acceptable Daily Intake), the group name is used in Table B, e.g., phosphates, sorbates. Column 1, however, contains the INS numbers of all additives in a group.

13. Table B entries are grouped according to the Functional Classes as described by the Codex Standard for Class Names and the International Numbering System for Food Additives (XOT 04-1999). However, Functional Effect Class 4.12 (Miscellaneous), as contained in the Draft Standard, has been eliminated and the six entries therein have been appropriately reassigned.
14. Italicized entries in columns 1 and 2 of Table B denote additives listed in Table 3 of the GSFA (“Additives Permitted for Use in Food in General, Unless Otherwise Specified, in Accordance with GMP”) that are not currently listed in the Draft Standard. These additives (which are not “otherwise specified” in Tables 1 and 2 of the GSFA) have been included in Table B because they have functional effects corresponding to at least one of the Functional Effect Classes in the Draft Standard. However, a determination that any of these additives should be deleted from Table B because they are technologically unsuitable for use in fat spreads and blended spreads, can be brought to the attention of the Committee with full justification to provide a solid basis for a Committee decision.

## POINTS TO CONSIDER IN REVIEWING ANNEX 1

### General Issues

15. The GSFA Food Category System: The GSFA food categories, along with their descriptions, (ALINORM 03/12A, Appendix II) relevant to the draft standard for fat spreads and blended spreads are:

2.0 - Fats and Oils, and Fat Emulsions - Includes all fat-based products that are derived from vegetable, animal or marine sources, or their mixtures.

2.2 - Fat Emulsions Mainly of Type Water-in-Oil - Includes all emulsified products excluding fat-based counterparts of dairy products and dairy desserts.

2.2.1 - Emulsions Containing at Least 80% Fat - Includes all full-fat products. Their fat-reduced counterparts are found in 02.2.2.

2.2.1.2 - Margarine and Similar Products - Margarine is a spreadable or fluid water-in-oil emulsion produced mainly from edible fats and oils.

2.2.2 - Emulsions Containing Less Than 80% Fat - Includes reduced-fat counterparts of butter, margarine, and their mixtures. Includes products derived from butter (e.g., “butterine” a spreadable butter blend with vegetable oils). Includes 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 dairy spreads (reduced fat-based products derived from dairy fat (e.g., milk fat)), and other reduced-fat spreads derived from animal or vegetable fats (e.g., three-quarter fat butter, three-quarter fat margarine, or three-quarter fat butter-margarine blends).

The food category system is hierarchical. A provision for an additive in a given category applies to its sub-categories, unless explicitly noted otherwise. The ML for the additive in the category carries through to the sub-categories, unless noted otherwise. Thus, the provisions for additives in category 2.2, for example, apply to any food that is covered by 2.2.1, 2.2.1.2, or 2.2.2. Because the scope of the Draft Standard (see Sections 3.1.1 and 3.1.2) is consistent with the descriptions for categories 2.2.1.2 and 2.2.2 (see above), a 1:1 correspondence exists between the food additive provisions in the standard and these two GSFA food categories.

16. Grouped additives: The eWG agreed that additives grouped by JECFA could be represented by a single entry in the food additive provisions of the Draft Standard, as long as the option exists to exclude individual additives whose use cannot be technologically justified. This option can be exercised by the CCFO informing CCFAC of the technological basis for such exclusions.
17. Class 4.12 (Miscellaneous): The *ad hoc* WG at the 18<sup>th</sup> session of the CCFO recommended elimination of Functional Effect Class 4.12 (Miscellaneous) and reassignment of the six additives listed in this class to their proper Codex Functional Classes (ALINORM 03/17, Appendix IV). The eWG agreed and proposed the introduction of the new class of Anti-caking agent and changing the class name “Propellant” to “Propellant/packing gas.” If the Committee agrees, it should inform the Codex Committee on Food Labelling (CCFL) and the CCFAC of this decision and propose that these

committees consider revising the Codex Functional Class name “Propellant” to “Propellant/packing gas”.

18. Flavour enhancers: All flavour enhancers in Table 3 of the GSFA have been adopted by the Codex Commission at GMP levels of use in food in general. These flavour enhancers are included in Table B in Annex 1. The current Draft Standard contains numerical MLs for the series of glutamates (INS Nos. 620-625), guanylates (INS Nos. 626-629), inosinates (INS Nos. 630-633), and ribonucleotides (INS Nos. 634-635). These flavour enhancers, however, have been included in Table B with GMP levels of use in order to harmonize with the GSFA.
19. Colours: Categories 2.0, 2.2.1.2, and 2.2.2 of the GSFA contain provisions (step 6) for several colours with numerical ADIs that would recognize their use in fat spreads and blended spreads, except that they are listed with GMP use levels. A member of the eWG argues that their acceptance provides opportunity for innovation and options to use those that can enhance the colour stability of a product above that achievable with a more limited set of colours. As a basis for the Committee to discuss inclusion of these colours in the Draft Standard, the eWG member has suggested numerical MLs for their use. Selection was based on the MLs in the GSFA for these colours in categories representing products with similar applications to fat spreads and blended spreads: 4.1.2.6 – Fruit-based spreads and 12.6 – Sauces and like products. Rather than include these colours and the proposed MLs in Table B of Annex 1, they are listed here:

|                                |                           |                    |                         |
|--------------------------------|---------------------------|--------------------|-------------------------|
| Canthaxanthin                  | (INS No. 161g): 100 mg/kg | Grape skin extract | (INS No. 163(ii))       |
| <u>ALL OTHERS - 500 mg/kg:</u> |                           | Indigotine         | (INS No. 132g)          |
| Allura red AC                  | (INS No. 129)             | Iron oxides        | (INS Nos. 171(i-iii))   |
| Brilliant blue FCF             | (INS No. 133)             | Riboflavines       | (INS Nos. 101(i), (ii)) |
| Chlorophylls, copper complexes | (INS Nos. 141(i), (ii))   | Sunset yellow FCF  | (INS No. 110)           |
| Erythrosine                    | (INS No. 127)             | Tartrazine         | (INS No. 102).          |

If the Committee agrees that these colours are suitable for use in fat spreads and blended spreads at the proposed MLs or other numerical MLs, they can be added to Table B.

20. The MLs in the GSFA: The Preamble to the GSFA (Section 3.3) states: “All food additives subject to the provisions of this Standard [the GSFA] 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; ...”. Thus, a numerical ML in the GSFA does not represent a GMP level of use. The ML is the highest level of use for an additive determined to be functionally effective and agreed to be safe by the CCFAC. The ML usually does not correspond to the optimum, recommended, or typical level of use; it is an upper bound of safe use. The optimum use level will differ for each application of the additive, taking into account the processing of the food to which it is added and post-manufacture storage and handling of the food by distributors, retailers, and consumers.

### **Request for Comments on Specific Additive Provisions**

21. Annatto Extracts (INS No.160b): The 61<sup>st</sup> JECFA revised the status of the ADI from “full” to “temporary”. Therefore, the additive provisions for annatto extracts should be removed from the Draft Standard, as the Committee agreed (para. 1b, above). Although the entry for annatto extracts has been retained in Table B with the MLs from the GSFA, it has been placed in square brackets. The eWG was informed that annatto extracts are in current use in yellow fat spreads in international trade. Comments are requested on the appropriate MLs for annatto extracts.
22. Benzoates (INS Nos. 210-213) and Hydroxybenzoates (INS Nos. 214, 216, 218): Benzoates are listed in the Draft Standard with an ML of 1000 mg/kg. Also, the GSFA contains adopted provisions for the use of benzoates in fat spreads and blended spreads (i.e., covering GSFA food categories 2.2.1.2 and 2.2.2) at 1000 mg/kg (as benzoic acid). Like benzoates, hydroxybenzoates are preservatives; thus, the *ad hoc* WG at the 18<sup>th</sup> session of the CCFO recommended inclusion of the relevant provisions in the GSFA for

hydroxybenzoates into the Draft Standard. One member of the eWG provided a brief justification for the functionality of both preservatives and recommended 1000 mg/kg as an acceptable ML for both benzoates and hydroxybenzoates. These provisions have been included in Table B. Comments are requested on whether the Codex Standard for Fat Spreads and Blended Spreads should contain provisions for the use of benzoates and hydroxybenzoates.

23. BHT (Butylated hydroxytoluene, INS No. 321): Two members of the eWG supported the ML of 75 mg/kg for BHT, as listed in the Draft Standard. The GSFA draft provision for BHT in category 2.2.1.2 is 500 mg/kg; for 2.2.2 it is 200 mg/kg (fat or oil basis). These two MLs have been entered into Table B. The Committee should consider whether they are technologically justified or whether the single value of 75 mg/kg remains appropriate. Alternatively, the Committee may propose MLs different from those noted. In any case, the Committee should also resolve whether the ML for category 2.2.1.2 should be qualified with “fat or oil basis”.
24. Carotenes, vegetable (INS No. 160a(ii)): The Draft Standard lists “160a(ii) Natural carotenes.” The Codex INS system lists “160a(ii) Natural extracts.” The GSFA lists “Carotenes, natural extracts (vegetable)” as a synonym for “Carotenes, vegetable.” The eWG concluded that the Draft Standard refers to Carotenes, vegetable. Attention is also called to the assignment of INS No. 160a(ii) to “Carotenes, algae.” The JECFA has not assigned an ADI to Carotenes, algae.

In 1993, the JECFA accorded an ADI of “acceptable – provided the level of use does not exceed the level normally found in vegetables” for Carotenes, vegetable. Two members of the eWG propose an ML of 25 mg/kg, while another member views GMP as appropriate. Because the current Draft Standard lists “GMP,” as do the GSFA categories 2.2.1.2 and 2.2.2, GMP has been entered in Table B. Comments providing technological justification for limiting the ML to 25 mg/kg, another ML, or supporting the level of GMP are requested.

25. Carotenoids (INS Nos. 160a(i), 160e, 160f): The JECFA has assigned carotenoids a numerical group ADI. Two members of the eWG support an ML of 25 mg/kg, as listed in the current Draft Standard, while another member views GMP as more appropriate. The GSFA provisions in categories 2.2.1.2 and 2.2.2 are 1000 mg/kg. Given that carotenoids have a numerical ADI and the *ad hoc* WG at the 18<sup>th</sup> session of the CCFO agreed with 1000 mg/kg, 1000 mg/kg has been entered in Table B. Comments providing technological justification for limiting the ML to 25 mg/kg, another ML, or supporting 1000 mg/kg are requested.
26. Gallate, Propyl (INS No. 310): Two members of the eWG support the ML of 100 mg/kg, as listed in the Draft Standard. One member of the eWG proposed an ML of 200 mg/kg for propyl gallate, used singly or in combination with BHA and BHT. The GSFA contains adopted provisions for propyl gallate in category 2.2.1.2 at 200 mg/kg and in category 2.2.2 at 100 mg/kg. These provisions have been entered into Table B. Comments are requested on the technological justification for MLs of 100 mg/kg or 200 mg/kg propyl gallate in the Codex Standard for Fat Spreads and Blended Spreads. Comments are also requested on the need for the qualifier “singly or in combination with BHA and BHT.”
27. Guaiac Resin (INS No. 314): Two members of the eWG expressed the view that no technical need exists for this antioxidant. It is not listed in the Draft Standard. However, it is a member of a functional class useful to fat spreads and blended spreads and the Commission has adopted its use in foods in GSFA category 2.2.1 at 1000 mg/kg. Therefore, Guaiac resin has been included in Table B. Comments on whether the additive is technologically justified for use in fat spreads and blended spreads are requested.
28. Isopropyl citrates (INS No. 384): This additive (antioxidant synergist) is not listed in the Draft Standard. One member of the eWG noted that it can be used in food to protect vitamins. Because the Commission has adopted the GSFA provisions for use of isopropyl citrates in categories 2.2.1.2 and 2.2.2 at 200 mg/kg, the additive has been included in Table B. Comments are requested on whether a provision for the use of isopropyl citrates should be included in the Codex Standard for Fat Spreads and Blended Spreads at 200 mg/kg.
29. Propylene glycol (INS No. 1520): Propylene glycol, which has a numerical ADI, is currently listed in the

Draft Standard in Functional Effect Class 4.12 (Miscellaneous) for use at GMP levels. The GSFA does not contain provisions for its use in food categories 2.2.1.2 and 2.2.2. The eWG was informed that propylene glycol might become a component of margarine as a result of carry-over from its use as a carrier solvent for flavours. The eWG has no information on its use in fat spreads and blended spreads. Therefore, propylene glycol has not been included in Table B, as it cannot be said to exhibit a technical effect in margarine and, by extrapolation, in fat spreads and blended spreads, in general. Unless the Committee receives justification of a technological need for the use of propylene glycol in fat spreads and blended spreads, propylene glycol will not be included in the Codex Standard for Fat Spreads and Blended Spreads.

30. Silicon dioxide (INS No. 551): A member of the eWG noted that silicon dioxide is suitable as an anti-caking agent to maintain the free flow of fat spreads sold in curls and granular form and can serve as an anti-spattering agent for salt-free margarines. Silicon dioxide is listed in Functional Effect Class 4.12 (Miscellaneous) of the Draft Standard with a limit of 500 mg/kg. The class “Anti-caking agent” has been included in Table B to accommodate the technical effect of the additive. Silicon dioxide is also listed in Table 3 of the GSFA, which has been adopted by the Commission. Additives in Table 3 of the GSFA may be used at GMP levels in food, in general. Therefore, silicon dioxide is included in Table B with a GMP level of use in order to harmonize with the GSFA. Comments are requested on whether a provision for the use of silicon dioxide as an anti-caking agent at GMP use levels should be included in the Codex Standard for Fat Spreads and Blended Spreads.
31. Sodium diacetate (INS No. 262(ii)): Although this additive has a numerical ADI, it has a GMP level of use in the current Draft Standard and in category 2.2 of the GSFA (step 6). One member of the eWG proposed an ML of 1000 mg/kg for uses as a preservative and as an acidity regulator. The proposed ML has been included in Table B under both functional classes. Comments are requested on the appropriate ML for sodium diacetate to include in the Draft Standard.
32. Stearyl citrate (INS No. 484): This additive is not listed in the current Draft Standard. The GSFA contains an adopted provision in category 2.2.1.2 of 100 mg/kg (fat or oil basis) for the use of stearyl citrate, which can function as an emulsifier and as an anti-foaming agent. One member of the eWG supported use of stearyl citrate as an emulsion stabilizer and agreed with the ML of 100 mg/kg. The additive is included in Table B as an emulsifier and as an anti-foaming agent. Comments on technological justification are requested
33. TBHQ (Tertiary-butyl hydroquinone, INS No. 319): Two members of the eWG expressed the view that there was no technical need for this additive. The GSFA contains a draft provision (Step 6) for the use of TBHQ in category 2.0 with an ML of 200 mg/kg (fat or oil basis). The Draft Standard contains an ML of 200 mg/kg for TBHQ, singly or in combination with BHA, without the additional qualifier “fat or oil basis”. The GSFA provision with full qualification has been included in Table B. One member of the working group noted that TBHQ is useful as an alternative to or supplement to hydrogenation for increasing the oxidative stability of fats and oils. Additional comments on the technological justification for TBHQ as an optional antioxidant in fat spreads and blended spreads are requested.
34. Thiodipropionates (INS Nos. 388 and 389): Dilaurylthiodipropionate (INS No. 389), listed in the Draft Standard, and thiodipropionic acid (INS No. 388) are grouped as thiodipropionates. Two members of the eWG expressed the view that there was no technical need for these additives. One member of the eWG commented that thiodipropionates are used to decompose hydrogen peroxide, formed during lipid oxidation, into stable end products; the eWG member also supported the ML of 200 mg/kg. Because the Commission has adopted the GSFA provisions for thiodipropionates (categories 2.2.1.2 and 2.2.2), both compounds are included in Table B at 200 mg/kg (as thiodipropionic acid). The Committee may wish to consider comments relevant to technological justification for their use as optional antioxidants.

#### **FORMAT FOR THE FOOD ADDITIVE PROVISIONS IN THE STANDARD**

35. At its 18<sup>th</sup> Session, the CCFO agreed to the following (ALINORM 03/17, paras. 42, 45 and 46):
  - a. The food additives section of the Codex Standard for Fat Spreads and Blended Spreads should refer to the GSFA;

- b. Only additives with full JECFA ADIs and an INS number should be included in the standard;
- c. The food additives section should contain the names of the functional effect classes as they appear in the INS system;
- d. The provisions referring to “GMP” for additives with a numerical ADI should be deleted from the standard and proposals for numerical levels of use should be requested for subsequent endorsement by the CCFAC;
- e. To incorporate, where possible, the following statements into the food additives section of the standard, to replace the listing of individual additives:
  - i. For those additives listed in Tables 1 and 2 of the GSFA: Any (functional effect) intended for use with the provisions in the Food Categories: 2.0, 2.2, 2.2.1, 2.2.1.2, and 2.2.2 of Table 2 of the Codex GSFA, subject to any deviations noted below (to be listed). [Note: 2.2.1 should have been included in this statement in the Report of the 18<sup>th</sup> CCFO.]
  - ii. For those additives listed in Table 3 of the GSFA: Any (functional effect) listed in Table 3 of the Codex GSFA. Table 3 (functional effect) with restrictions are included in the Table below (to be listed).

36. Consensus was evident within the eWG on points a-d in the preceding paragraph. However, divergent views were expressed on the format of the food additive provisions. The eWG has provided the following four options for the Committee’s consideration:

- a. The standard could explicitly list those additives that achieve the desired technical effect, as in the manner of the current Draft Standard.  
Comment: This would result in a long list of additive provisions that are independent of the GSFA. It has the potential to be highly restrictive and to stifle innovation and minimize options for improvements in product quality. This option is also inconsistent with the direction in which the Commission is proceeding for modernizing the commodity standards and by emphasizing the development of horizontal standards.
- b. The Committee, at its 18<sup>th</sup> session, agreed to the approach as provided in paragraph 35e above.  
Comment: This approach recognizes each of the functional effect classes identified by the Committee and allows for explicit listings of any deviations from the GSFA that the Committee believes necessary. Additionally, because the functional effects for all additives are listed, the difficulty of determining the functional effect for additives listed in Table 3 of the GSFA does not arise. Although Table 3 does not provide information on functional effect, this information is available in the INS System. This option has potential to lead to the development of negative lists in the standard, which would be incompatible with and difficult to link to the GSFA.
- c. The language in paragraph 35e, above, could be modified by eliminating the phrases “*subject to any deviations noted below (to be listed).*” and “*Table 3 (functional effect) with restrictions are included in the Table below (to be listed).*”  
Comment: If the Committee were to decide that a particular additive listed in the GSFA cannot be technologically justified for use in fat spreads or blended spreads or a particular ML for a GSFA provision is not technologically justifiable, the Committee can forward its decision and assessment to the CCFAC for endorsement. The Committee should keep in mind that the GSFA categories 2.2.1.2 and 2.2.2 have a 1:1 correspondence to the fat spreads and blended spreads of the Draft Standard. Therefore, specifying deviations or restrictions within the standard, as envisioned by the language of paragraphs 35e(i) and 35e(ii), would be unnecessary.
- d. The food additives section of the standard could 1) contain a list of the functional classes the Committee deems necessary and 2) refer only to GSFA categories 2.2.1.2 and 2.2.2 and Table 3 of the GSFA.  
Comment: This approach is similar to the preceding option. But, it is more concise, because it does not reference categories 2.0, 2.2, and 2.2.1. Reference to these categories is unnecessary because the additive provisions for these categories apply to 2.2.1.2 and 2.2.2, unless there are

restrictions or limitations in the GSFA, which are usually included as NOTES. This approach pre-supposes that users of the standard understand the hierarchical structure of the food category system of the GSFA and the need for consulting the additive provisions in the broader categories 2.0, 2.2, and 2.2.1 in order to access all additive provisions in the GSFA that apply to fat spreads and blended spreads.

37. In contrast to options a and b, options c and d would eliminate the need for periodic amendments to the food additives section of the Codex Standard for Fat Spreads and Blended Spreads, once it has been adopted by the Commission. Only the GSFA would require revision to meet the needs of the Committee.
38. Options b-d would provide more flexibility and choices than option a for the use of additives within the agreed functional effect classes and be in keeping with the Commission's view that commodity committee standards reference general standards. For all options, the obligation to use additives according to GMP and to adhere to the Codex General Principles for the Use of Food Additives and the Preamble of the General Standard for Food Additives remains.

#### **RECOMMENDATIONS AND ITEMS FOR COMMENT**

39. Parties interested in proposing revisions to Table B in Annex 1 should respond to this CL with a technical justification for each proposed revision, keeping in mind that any new additive proposed for addition should have an INS number, have been evaluated by JECFA, and have a full ADI (numerical or "not specified"). For additives with numerical ADIs, a numerical ML should be proposed. Parties should also consider the requests for comments on provisions for specific additives discussed in paragraphs 21-34.
40. During its next session, the Committee, following revision of Table B, should prepare a working paper with a table of the agreed food additive provisions for the standard and forward it to the CCFAC for endorsement of the provisions.
41. The Committee should request that the CCFL and CCFAC revise the name of the Codex Functional Class "Propellant" to "Propellant/packing gas".
42. Comments are sought on the format of Section 4 (Food Additives) of the Draft Standard for Fat Spreads and Blended Spreads, taking into account the discussion in the section "Format for the Food Additive Provisions in the Standard," above, and the emphasis that the Commission continues to place on horizontal standards. At the 33<sup>rd</sup> session of the CCFAC, the Codex Secretariat reemphasized (CX/FAC 01/6-2001) the priority of the Commission for modernizing the existing commodity standards and transferring material from commodity standards to applicable general standards.



## ANNEX 1

## Proposed Draft Food Additive Provisions for Fat Spreads and Blended Spreads

**TABLE A.**

| FLAVOURS  |
|---|
| Natural flavours and their identical synthetic equivalents and other synthetic flavours, except those that are known to present a toxic hazard. |

**TABLE B.**

**NOTE 1: An asterisk (\*)** following any entry in the table indicates discussion of the additive or functional group in the main text of this CL.

**NOTE 2: Italicized entries in Columns 1 and 2** indicate additives that are listed in Table 3 of the GSFA, but which are not currently listed in the Draft Standard.

**NOTE 3: Numerical entries in Column 3** are based on the current provisions in the Draft Standard, the proposals of the *ad hoc* working group during the 18<sup>th</sup> session of the CCFO (March 2003), the proposals from the electronic Working Group, or the entries and principles of the GSFA. The proposed ML for **Annatto extracts** has been placed in square brackets because the 61<sup>st</sup> JECFA has revised the ADI to “temporary.”

**NOTE 4: Entries in Column 4** give the current status of the GSFA food additive provisions in the Codex step process corresponding to the proposed MLs in column 3. Proposed MLs with no status are indicated by “---” and the relevant GSFA provision (ML and food category number) is included with its status.

| INS No.             | Additive Name<br>(See NOTE 2)  | Proposed MLs<br>(See NOTE 3)                                       | Status of MLs in<br>the GSFA<br>(See NOTE 4) |
|---------------------|--|--|--|
| <b>COLOURS*</b>     |  |  |  |
| 160b                | ANNATTO EXTRACTS*  | [100 mg/kg (2.2.1); 30 mg/kg (2.2.2) (as total bixin or norbixin)] | Step 6                                       |
| 162                 | <i>BEET RED</i>  | GMP  | Adopted                                      |
| 150a                | <i>CARAMEL COLOUR, CLASS I - PLAIN</i>   | GMP  | Adopted                                      |
| 120                 | CARMINES   | 500 mg/kg  | Step 3                                       |
| 160a(ii)            | CAROTENES, VEGETABLE* (Natural carotenes)  | GMP  | Step 6                                       |
| 160a(i), 160e, 160f | CAROTENIDS* (beta-Carotene; beta-apo-carotenal; beta-apo-8'-carotenic acid, methyl or ethyl ester) | 1 000 mg/kg  | Step 6                                       |
| 140                 | <i>CHLOROPHYLLS</i>  | GMP  | Adopted                                      |
| 100(i)              | CURCUMIN   | 10 mg/kg (2.2.1.2)<br>5 mg/kg (2.2.2)                              | Step 6                                       |
| 171                 | <i>TITANIUM DIOXIDE</i>  | GMP  | Adopted                                      |
| <b>EMULSIFIERS</b>  |  |  |  |
| 472a                | ACETIC AND FATTY ACID ESTERS OF GLYCEROL   | GMP  | Adopted                                      |
| 1001                | <i>CHOLINE SALTS</i>   | GMP  | Adopted                                      |
| 472c                | CITRIC AND FATTY ACID ESTERS OF GLYCEROL   | GMP  | Adopted                                      |
| 472e                | DIACETYLTARTARIC AND FATTY ACID ESTERS OF GLYCEROL   | 10 000 mg/kg   | Step 6                                       |
| 472b                | LACTIC AND FATTY ACID ESTERS OF GLYCEROL   | GMP  | Adopted                                      |
| 322                 | LECITHIN   | GMP  | Adopted                                      |
| 471                 | MONO- AND DIGLYCERIDES   | GMP  | Adopted                                      |
| 475                 | POLYGLYCEROL ESTERS OF FATTY ACIDS   | 5 000 mg/kg  | ---; 20 000 mg/kg at step 6 for 2.0          |
| 476                 | POLYGLYCEROL ESTERS OF INTERESTERIFIED RICINOLEIC ACID (Polyglycerol polyricinoleate)              | 4 000 mg/kg  | ---; 10 000 mg/kg at step 6 for 2.2          |
| 432-436             | POLYSORBATES (Polyoxyethylene(20) sorbitan fatty acid esters)                                      | 10 000 mg/kg (singly or in combination)                            | Step 6                                       |
| 477                 | PROPYLENE GLYCOL ESTERS OF FATTY ACIDS   | 10 000 mg/kg (baking purposes, only)                               | ---; 20 000 mg/kg adopted with no qualifier  |
| 470                 | SALTS OF MYRISTIC, PALMITIC AND STEARIC ACIDS (AMMONIUM, CALCIUM, POTASSIUM, SODIUM)               | GMP  | Adopted                                      |

| INS No.                           | Additive Name<br>(See NOTE 2)   | Proposed MLs<br>(See NOTE 3)                                      | Status of MLs in<br>the GSFA<br>(See NOTE 4)                                 |
|-----------------------------------|---|---|--|
| 491-495                           | SORBITAN ESTERS OF FATTY ACIDS (mono- and tristearate; monolaurate; monopalmitate)            | 10 000 mg/kg (singly or in combination)                           | ---; 30 000 at Codex step 6 for 2.0  |
| 481(i), 482(i)                    | STEAROYL-2-LACTYLATES (Sodium and calcium salts)  | 10 000 mg/kg (singly or in combination)                           | Step 6   |
| 484                               | STEARYL CITRATE*  | 100 mg/kg (fat or oil basis)                                      | Adopted (2.2.1.2, only)  |
| 474                               | SUCROGLYCERIDES   | 10 000 mg/kg (baking purposes, only)                              | Step 6 with no qualifier   |
| 473                               | SUCROSE ESTERS OF FATTY ACIDS   | 10 000 mg/kg (baking purposes, only)                              | Step 6 with no qualifier   |
| 479                               | TOSOM (Thermally oxidized soya bean oil interacted with mono and diglycerides of fatty acids) | 5 000 mg/kg (in fat emulsions for frying or baking purpose, only) | Adopted with no qualifier  |
| <b>PRESERVATIVES</b>              |   |   |  |
| 210-213                           | BENZOATES* (benzoic acid; sodium, potassium, and calcium benzoates)                           | 1 000 mg/kg (singly or in combination (as benzoic acid))          | Adopted  |
| 282                               | CALCIUM PROPIONATE  | GMP   | Adopted  |
| 214, 216, 218                     | HYDROXYBENZOATES, p-* (Ethyl, propyl, and methyl hydroxybenzoates)                            | 1000 mg/kg (singly or in combination (as p-hydroxybenzoic acid))  | Step 6 for 2.2.1.2; 300 mg/kg (as p-hydroxybenzoic acid) at step 6 for 2.2.2 |
| 283                               | POTASSIUM PROPIONATE  | GMP   | Adopted  |
| 280                               | PROPIONIC ACID  | GMP   | Adopted  |
| 262(ii)                           | SODIUM DIACETATE*   | 1 000 mg/kg   | ---; GMP at step 6 for 2.2   |
| 281                               | SODIUM PROPIONATE   | GMP   | Adopted  |
| 200-203                           | SORBATES (sorbic acid; sodium, potassium, and calcium sorbates)                               | 2 000 mg/kg (singly or in combination (as sorbic acid))           | 1 000 mg/kg at step 6 for 2.2.1; 2 000 mg/kg step 6 for 2.2.2                |
| <b>STABILISERS AND THICKENERS</b> |   |   |  |
| 1422                              | ACETYLATED DISTARCH ADIPATE   | GMP   | Adopted  |
| 1414                              | ACETYLATED DISTARCH PHOSPHATE   | GMP   | Adopted  |
| 1401                              | ACID TREATED STARCH   | GMP   | Adopted  |
| 406                               | AGAR  | GMP   | Adopted  |
| 400                               | ALGINIC ACID  | GMP   | Adopted  |
| 1402                              | ALKALINE TREATED STARCH   | GMP   | Adopted  |
| 403                               | AMMONIUM ALGINATE   | GMP   | Adopted  |
| 1403                              | BLEACHED STARCH   | GMP   | Adopted  |
| 404                               | CALCIUM ALGINATE  | GMP   | Adopted  |
| 410                               | CAROB BEAN GUM  | GMP   | Adopted  |
| 407                               | CARRAGEENAN (Incl. Na, K, NH <sub>4</sub> <sup>+</sup> salts, and Furcelleran)                | GMP   | Adopted  |
| 424                               | CURDLAN   | GMP   | Adopted  |
| 1400                              | DEXTRINS, WHITE AND YELLOW ROASTED STARCH   | GMP   | Adopted  |
| 1412                              | DISTARCH PHOSPHATE  | GMP   | Adopted  |
| 1405                              | ENZYME TREATED STARCH   | GMP   | Adopted  |
| 467                               | ETHYL HYDROXYETHYL CELLULOSE  | GMP   | Adopted  |
| 418                               | GELLAN GUM  | GMP   | Adopted  |
| 422                               | GLYCEROL  | GMP   | Adopted  |
| 412                               | GUAR GUM  | GMP   | Adopted  |
| 414                               | GUM ARABIC  | GMP   | Adopted  |
| 463                               | HYDROXYPROPYL CELLULOSE   | GMP   | Adopted  |
| 1442                              | HYDROXYPROPYL DISTARCH PHOSPHATE  | GMP   | Adopted  |
| 464                               | HYDROXYPROPYL METHYL CELLULOSE  | GMP   | Adopted  |
| 1440                              | HYDROXYPROPYL STARCH  | GMP   | Adopted  |
| 416                               | KARAYA GUM  | GMP   | Adopted  |
| 425                               | KONJAC FLOUR  | GMP   | Adopted  |
| 461                               | METHYL CELLULOSE  | GMP   | Adopted  |
| 465                               | METHYL ETHYL CELLULOSE  | GMP   | Adopted  |

| <b>INS No.</b>   | <b>Additive Name<br/>(See NOTE 2)</b>                               | <b>Proposed MLs<br/>(See NOTE 3)</b> | <b>Status of MLs in<br/>the GSFA<br/>(See NOTE 4)</b> |
|--|---|--------------------------------------|---|
| 460i   | MICROCRYSTALLINE CELLULOSE  | GMP                                  | Adopted   |
| 1410   | MONOSTARCH PHOSPHATE  | GMP                                  | Adopted   |
| 1404   | OXIDIZED STARCH   | GMP                                  | Adopted   |
| 440  | PECTINS (AMIDATED AND NON-AMIDATED)                                 | GMP                                  | Adopted   |
| 1413   | PHOSPHATED DISTARCH PHOSPHATE                                       | GMP                                  | Adopted   |
| 338; 339(i-iii);<br>340(i-iii); 341(i-<br>iii); 342(i,ii);<br>343(ii,iii);<br>450(i,iii,v,vi);<br>451(i,ii);<br>452(i,ii,iv,v);<br>542 | PHOSPHATES  | 5 000 mg/kg (as P)                   | ---; 2 200 mg/kg at step<br>6 for 2.2.1.2 and 2.2.2   |
| 1200   | <i>POLYDEXTROSES A AND N</i>  | GMP                                  | Adopted   |
| 402  | POTASSIUM ALGINATE  | GMP                                  | Adopted   |
| 460(ii)  | POWDERED CELLULOSE  | GMP                                  | Adopted   |
| 407a   | <i>PROCESSED EUCHEUMA SEAWEED</i>                                   | GMP                                  | Adopted   |
| 405  | PROPYLENE GLYCOL ALGINATE   | 3 000 mg/kg                          | 3 000 mg/kg at step 6<br>for 2.2.1, only              |
| 401  | SODIUM ALGINATE   | GMP                                  | Adopted   |
| 466  | SODIUM CARBOXYMETHYL CELLULOSE                                      | GMP                                  | Adopted   |
| 1420   | STARCH ACETATE ESTERIFIED WITH<br>ACETIC ANHYDRIDE OR VINYL ACETATE | GMP                                  | Adopted   |
| 1450   | <i>STARCH SODIUM OCTENYL SUCCINATE</i>                              | GMP                                  | Adopted   |
| 417  | <i>TARA GUM</i>   | GMP                                  | Adopted   |
| 413  | TRAGACANTH GUM  | GMP                                  | Adopted   |
| 415  | XANTHAN GUM   | GMP                                  | Adopted   |
| <b>ACIDITY REGULATORS</b>  |   |                                      |   |
| 260  | ACETIC ACID, GLACIAL  | GMP                                  | Adopted   |
| 264  | AMMONIUM ACETATE  | GMP                                  | Adopted   |
| 503(i)   | AMMONIUM CARBONATE  | GMP                                  | Adopted   |
| 503(ii)  | AMMONIUM HYDROGEN CARBONATE   | GMP                                  | Adopted   |
| 527  | AMMONIUM HYDROXIDE  | GMP                                  | Adopted   |
| 328  | AMMONIUM LACTATE  | GMP                                  | Adopted   |
| 263  | CALCIUM ACETATE   | GMP                                  | Adopted   |
| 170(i)   | CALCIUM CARBONATE   | GMP                                  | Adopted   |
| 333  | CALCIUM CITRATE   | GMP                                  | Adopted   |
| 578  | CALCIUM GLUCONATE   | GMP                                  | Adopted   |
| 526  | CALCIUM HYDROXIDE   | GMP                                  | Adopted   |
| 327  | CALCIUM LACTATE   | GMP                                  | Adopted   |
| 352(ii)  | CALCIUM MALATE  | GMP                                  | Adopted   |
| 529  | CALCIUM OXIDE   | GMP                                  | Adopted   |
| 516  | CALCIUM SULPHATE  | GMP                                  | Adopted   |
| 330  | CITRIC ACID   | GMP                                  | Adopted   |
| 297  | <i>FUMARIC ACID</i>   | GMP                                  | Adopted   |
| 575  | GLUCONO DELTA-LACTONE   | GMP                                  | Adopted   |
| 507  | <i>HYDROCHLORIC ACID</i>  | GMP                                  | Adopted   |
| 270  | LACTIC ACID (L-, D-, and D,L-)                                      | GMP                                  | Adopted   |
| 504(i)   | MAGNESIUM CARBONATE   | GMP                                  | Adopted   |
| 580  | MAGNESIUM GLUCONATE   | GMP                                  | Adopted   |
| 504(ii)  | MAGNESIUM HYDROGEN CARBONATE  | GMP                                  | Adopted   |
| 528  | MAGNESIUM HYDROXIDE   | GMP                                  | Adopted   |
| 329  | MAGNESIUM LACTATE, (D,L-)   | GMP                                  | Adopted   |
| 530  | MAGNESIUM OXIDE   | GMP                                  | Adopted   |
| 296  | <i>MALIC ACID (D,L-)</i>  | GMP                                  | Adopted   |
| 338; 339(i-iii);<br>340(i-iii); 341(i-<br>iii); 342(i,ii);<br>343(ii,iii);<br>450(i,iii,v,vi);<br>451(i,ii);<br>452(i,ii,iv,v);<br>542 | PHOSPHATES  | 5 000 mg/kg (as P)                   | ---; 2 200 mg/kg at step<br>6 for 2.2.1.2 and 2.2.2   |

| INS No.   | Additive Name<br>(See NOTE 2)                                       | Proposed MLs<br>(See NOTE 3)                                    | Status of MLs in<br>the GSFA<br>(See NOTE 4)   |
|---|---|---|--|
| 261   | POTASSIUM ACETATE   | GMP   | Adopted  |
| 501(i)  | POTASSIUM CARBONATE   | GMP   | Adopted  |
| 332i  | POTASSIUM DIHYDROGEN CITRATE  | GMP   | Adopted  |
| 577   | POTASSIUM GLUCONATE   | GMP   | Adopted  |
| 501(ii)   | POTASSIUM HYDROGEN CARBONATE  | GMP   | Adopted  |
| 351(i)  | POTASSIUM HYDROGEN MALATE   | GMP   | Adopted  |
| 525   | POTASSIUM HYDROXIDE   | GMP   | Adopted  |
| 326   | POTASSIUM LACTATE (Solution)  | GMP   | Adopted  |
| 351(ii)   | POTASSIUM MALATE  | GMP   | Adopted  |
| 515   | POTASSIUM SULPHATE  | GMP   | Adopted  |
| 262(i)  | SODIUM ACETATE  | GMP   | Adopted  |
| 500(i)  | SODIUM CARBONATE  | GMP   | Adopted  |
| 262(ii)   | SODIUM DIACETATE*   | 1 000 mg/kg   | ---; GMP at step 6 for 2.2   |
| 331(i)  | SODIUM DIHYDROGEN CITRATE   | GMP   | Adopted  |
| 365   | SODIUM FUMARATE   | GMP   | Adopted  |
| 500(ii)   | SODIUM HYDROGEN CARBONATE   | GMP   | Adopted  |
| 350(i)  | SODIUM HYDROGEN MALATE  | GMP   | Adopted  |
| 524   | SODIUM HYDROXIDE  | GMP   | Adopted  |
| 325   | SODIUM LACTATE (Solution)   | GMP   | Adopted  |
| 350(j)  | SODIUM MALATE   | GMP   | Adopted  |
| 500(iii)  | SODIUM SESQUICARBONATE  | GMP   | Adopted  |
| 334; 335(i,ii);<br>336(i,ii); 337   | TARTRATES   | 100 mg/kg (as tartaric acid)                                    | ---; GMP at step 6 for 2.2.2, only   |
| 380   | TRIAMMONIUM CITRATE   | GMP   | Adopted  |
| 332(ii)   | TRIPOTASSIUM CITRATE  | GMP   | Adopted  |
| 331(iii)  | TRISODIUM CITRATE   | GMP   | Adopted  |
| <b>ANTIOXIDANTS</b>   |   |   |  |
| Any combination of gallates, BHA, and BHT; Limits for individual compounds are not exceeded |   |   |  |
| 300   | ASCORBIC ACID   | GMP   | Adopted  |
| 304, 305  | ASCORBYL ESTERS (Ascorbyl palmitate; ascorbyl stearate)             | 500 mg/kg (as ascorbyl stearate)                                | Adopted  |
| 320   | BHA (Butylated hydroxyanisole)                                      | 200 mg/kg (fat or oil basis-singly or in combination with TBHQ) | Step 6 with no qualifier for use with TBHQ   |
| 321   | BHT* (Butylated hydroxytoluene)                                     | 500 mg/kg (2.2.1.2)<br>200 mg/kg (fat or oil basis) (2.2.2)     | Step 6   |
| 302   | CALCIUM ASCORBATE   | GMP   | Adopted  |
| 310   | GALLATE, PROPYL*  | 200 mg/kg (2.2.1.2)<br>100 mg/kg (2.2.2)                        | Adopted  |
| 1102  | GLUCOSE OXIDASE ( <i>A. Niger</i> Var.)                             | GMP   | Adopted  |
| 314   | GUAIAIC RESIN*  | 1 000 mg/kg (2.2.1)   | Adopted  |
| 315   | ERYTHORBIC ACID ( <i>Isoascorbic acid</i> )                         | GMP   | Adopted  |
| 303   | POTASSIUM ASCORBATE   | GMP   | Adopted  |
| 301   | SODIUM ASCORBATE  | GMP   | Adopted  |
| 316   | SODIUM ERYTHORBATE ( <i>Sodium isoascorbate</i> )                   | GMP   | Adopted  |
| 319   | TBHQ* (Tertiary-butylhydroquinone)                                  | 200 mg/kg (fat or oil basis-singly or in combination with BHA)  | Step 6 with no qualifier for use with BHA  |
| 388, 389  | THIODIPROPIONATES (Thiodipropionic acid; dilauryl thiodipropionate) | 200 mg/kg (as thiodipropionic acid)                             | Adopted  |
| 306, 307  | TOCOPHEROLS   | 500 mg/kg   | Step 6   |
| <b>ANTIOXIDANT SYNERGISTS</b>   |   |   |  |
| 385, 386  | EDTAs (Calcium disodium EDTA; disodium EDTA)                        | 100 mg/kg (as anhydrous calcium disodium EDTA)                  | Adopted for 2.2.2; 75 mg/kg (as anhydrous calcium disodium EDTA) adopted for 2.2.1.2 |
| 384   | ISOPROPYL CITRATES*   | 200 mg/kg (2.2.1.2)<br>100 mg/kg (2.2.2)                        | Adopted  |

| INS No.                          | Additive Name<br>(See NOTE 2)              | Proposed MLs<br>(See NOTE 3)     | Status of MLs in<br>the GSFA<br>(See NOTE 4) |
|----------------------------------|--|----------------------------------|--|
| <b>ANTI-FOAMING AGENTS</b>       |  |                                  |  |
| 900a                             | POLYDIMETHYLSILOXANE                       | 10 mg/kg (frying purposes, only) | Adopted (2.2.1.2, only) with no qualifier    |
| 484                              | STEARYL CITRATE*                           | 100 mg/kg (fat or oil basis)     | Adopted (2.2.1.2, only)                      |
| <b>ANTI-CAKING AGENT</b>         |  |                                  |  |
| 559                              | ALUMINIUM SILICATE                         | GMP                              | Adopted                                      |
| 556                              | CALCIUM ALUMINIUM SILICATE (Synthetic)     | GMP                              | Adopted                                      |
| 552                              | CALCIUM SILICATE                           | GMP                              | Adopted                                      |
| 553(i)                           | MAGNESIUM SILICATE (Synthetic)             | GMP                              | Adopted                                      |
| 551                              | SILICON DIOXIDE (Amorphous)                | GMP                              | Adopted                                      |
| 554                              | SODIUM ALUMINOSILICATE                     | GMP                              | Adopted                                      |
| 553(iii)                         | TALC                                       | GMP                              | Adopted                                      |
| <b>FLAVOUR ENHANCERS*</b>        |  |                                  |  |
| 510                              | AMMONIUM CHLORIDE                          | GMP                              | Adopted                                      |
| 1101(iii)                        | BROMELAIN                                  | GMP                              | Adopted                                      |
| 509                              | CALCIUM CHLORIDE                           | GMP                              | Adopted                                      |
| 623                              | CALCIUM GLUTAMATE, L-, D,L                 | GMP                              | Adopted                                      |
| 629                              | CALCIUM GUANYLATE, 5'-                     | GMP                              | Adopted                                      |
| 633                              | CALCIUM INOSINATE, 5'-                     | GMP                              | Adopted                                      |
| 634                              | CALCIUM RIBONUCLEOTIDES, 5'-               | GMP                              | Adopted                                      |
| 628                              | DIPOTASSIUM GUANYLATE, 5'-                 | GMP                              | Adopted                                      |
| 632                              | DIPOTASSIUM INOSINATE, 5'-                 | GMP                              | Adopted                                      |
| 627                              | DISODIUM GUANYLATE, 5'-                    | GMP                              | Adopted                                      |
| 631                              | DISODIUM INOSINATE, 5'-                    | GMP                              | Adopted                                      |
| 635                              | DISODIUM RIBONUCLEOTIDES, 5'-              | GMP                              | Adopted                                      |
| 620                              | GLUTAMIC ACID, L-                          | GMP                              | Adopted                                      |
| 626                              | GUANYLIC ACID, 5'-                         | GMP                              | Adopted                                      |
| 630                              | INOSINIC ACID, 5'-                         | GMP                              | Adopted                                      |
| 1104                             | LIPASE (Animal Sources)                    | GMP                              | Adopted                                      |
| 1104                             | LIPASE ( <i>Aspergillus Oryzae</i> , Var.) | GMP                              | Adopted                                      |
| 511                              | MAGNESIUM CHLORIDE                         | GMP                              | Adopted                                      |
| 625                              | MAGNESIUM GLUTAMATE, L-, DL-               | GMP                              | Adopted                                      |
| 624                              | MONOAMMONIUM GLUTAMATE, L-                 | GMP                              | Adopted                                      |
| 622                              | MONOPOTASSIUM GLUTAMATE, L-                | GMP                              | Adopted                                      |
| 621                              | MONOSODIUM GLUTAMATE, L-                   | GMP                              | Adopted                                      |
| 1101(ii)                         | PAPAIN                                     | GMP                              | Adopted                                      |
| 508                              | POTASSIUM CHLORIDE                         | GMP                              | Adopted                                      |
| 1101(i)                          | PROTEASE ( <i>A. Oryzae</i> Var.)          | GMP                              | Adopted                                      |
| 957                              | THAUMATIN                                  | GMP                              | Adopted                                      |
| <b>SWEETENERS</b>                |  |                                  |  |
| 953                              | ISOMALT                                    | GMP                              | Adopted                                      |
| 966                              | LACTITOL                                   | GMP                              | Adopted                                      |
| 965                              | MALTITOL AND MALTITOL SYRUP                | GMP                              | Adopted                                      |
| 421                              | MANNITOL                                   | GMP                              | Adopted                                      |
| 420                              | SORBITOL AND SORBITOL SYRUP                | GMP                              | Adopted                                      |
| 967                              | XYLITOL                                    | GMP                              | Adopted                                      |
| <b>PROPELLANTS/PACKING GASES</b> |  |                                  |  |
| 290                              | CARBON DIOXIDE                             | GMP                              | Adopted                                      |
| 941                              | NITROGEN                                   | GMP                              | Adopted                                      |
| 942                              | NITROUS OXIDE                              | GMP                              | Adopted                                      |
| 944                              | PROPANE                                    | GMP                              | Adopted                                      |