Codex General Standard for Food Additives (GSFA)
CODEX STAN 192-1995

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Codex Committee on Food Additives
Outline

• What is the GSFA

• The Structure of the GSFA

• Food Additive Requirements
  – (the process/what is required for a food additive provision to be added to the GSFA)
What is the GSFA?

- An international standard administered by the Codex Alimentarius Commission (CAC)

- The CAC is a joint venture between the Food and Agriculture Organization (FAO) and the World Health Organization (WHO)

- formulate internationally accepted food safety standards for protection of human health and to ensure fair trade practices
What is the GSFA?

- Administered by the Codex Committee on Food Additives (CCFA)

- Deals solely with Food Additives:
  - “any substance... the intentional addition of which to food for a technological purpose... may be reasonably expected to result... in it or its by-products becoming a component of or otherwise affecting the characteristics... of such foods.”
What is the GSFA?

**General Principles of the GSFA: Pre-amble**

**Protect the health of consumers:**

– Only lists food additives determined to be safe by JECFA
– Sets criteria for verifying the compatibility of the listed ML with JECFA’s ADI (considers use in all foods)
– Provides criteria for justification of use

**Ensure fair practices in food trade:**

– Is the single authoritative reference point for food additives
– Only lists food additives subject to an INS designation
– Sets forth use conditions in all foods
– Defines foods in which additives may not be used
What is the GSFA?

• 16 main food categories (266 total)
• Includes provisions for over 300 additives
• ~2900 adopted provisions (Tables 1 and 2)
• ~3000 draft and proposed draft provisions remaining in the Step process
Structure of the GSFA

• Preamble
  – Annex A
  – Annex B
  – Annex C

• Table 1

• Table 2

• Table 3
  – Annex to Table 3
Structure of the GSFA

- Preamble
  - First five pages of GSFA
  - Made up of six sections describing:
    - Scope
    - Definitions
    - General principles for the use of food additives
    - Carry-over of food additives into foods
    - Food category system
    - Description of the standard
Structure of the GSFA

- Annexes to the Preamble
- Annex A
  - Guidelines for the development of maximum levels for the use of food additives with numerical acceptable daily intakes
- Annex B
  - Food category system
    - Hierarchical system
      - 16 main categories, total of 266 categories when including subcategories
- Annex C
  - Cross reference of GSFA food category system with Codex Commodity Standards
**Structure of the GSFA**

- **Categorizes food into 16 Food Categories**

### FOOD CATEGORY SYSTEM

**PART I: Food Category System**

- **01.0** Dairy products and analogues, excluding products of food category 02.0
  - **01.1** Milk and dairy-based drinks
    - **01.1.1** Milk and buttermilk (plain)
      - **01.1.1.1** Milk (plain)
      - **01.1.1.2** Buttermilk (plain)
    - **01.1.2** Dairy-based drinks, flavoured and/or fermented (e.g. chocolate milk, cocoa, eggnog, drinking yoghurt, whey-based drinks)
  - **01.2** Fermented and renneted milk products (plain), excluding food category 01.1.2 (dairy-based drinks)
    - **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** Rennet milk (plain)
  - **01.3** Condensed milk and analogues (plain)
    - **01.3.1** Condensed milk (plain)
Structure of the GSFA

• **GSFA Tables**
  
  • **Table 1**
    – List of adopted food additive provisions sorted alphabetically by additive name
  
  • **Table 2**
    – List of adopted food additive provisions sorted by food category (same information as in Table 1)

• **Table 3**

  – List of additives (and their functional classes) permitted for use in food in general in accordance with good manufacturing practice (GMP)

• **Annex to Table 3**

  – List of food categories (e.g. fresh fruit) which are excluded from the general conditions of Table 3
Structure of the GSFA

- Table 1:

<table>
<thead>
<tr>
<th>FoodCatNo</th>
<th>FoodCategory</th>
<th>MaxLevel</th>
<th>Notes</th>
<th>Year Adopted</th>
</tr>
</thead>
<tbody>
<tr>
<td>01.1.2</td>
<td>Dairy-based drinks, flavoured and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey-based drinks)</td>
<td>300 mg/kg</td>
<td>52 &amp; 161</td>
<td>2009</td>
</tr>
<tr>
<td>01.6.2.2</td>
<td>Rind of ripened cheese</td>
<td>100 mg/kg</td>
<td></td>
<td>2009</td>
</tr>
<tr>
<td>01.6.4</td>
<td>Processed cheese</td>
<td>100 mg/kg</td>
<td>161</td>
<td>2009</td>
</tr>
<tr>
<td>01.6.5</td>
<td>Cheese analogues</td>
<td>100 mg/kg</td>
<td>3</td>
<td>2009</td>
</tr>
<tr>
<td>01.7</td>
<td>Dairy-based desserts (e.g., pudding, fruit or flavoured yoghurt)</td>
<td>300 mg/kg</td>
<td>161</td>
<td>2009</td>
</tr>
<tr>
<td>02.4</td>
<td>Fat-based desserts excluding dairy-based dessert products of food category 01.7</td>
<td>300 mg/kg</td>
<td>161</td>
<td>2009</td>
</tr>
</tbody>
</table>

Note 3: Surface treatment.
Note 52: Excluding chocolate milk.
Structure of the GSFA

- Table 2:

<table>
<thead>
<tr>
<th>Food Category No.</th>
<th>05.4</th>
<th>Decorations (e.g., for fine bakery wares), toppings (non-fruit) and sweet sauces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additive</td>
<td>INS</td>
<td>Year Adopted</td>
</tr>
<tr>
<td>ACESULFAME POTASSIUM</td>
<td>950</td>
<td>2007</td>
</tr>
<tr>
<td>ALITAME</td>
<td>956</td>
<td>2007</td>
</tr>
<tr>
<td>ALLURA RED AC</td>
<td>129</td>
<td>2009</td>
</tr>
<tr>
<td>ASPARTAME</td>
<td>951</td>
<td>2007</td>
</tr>
<tr>
<td>BEESWAX</td>
<td>901</td>
<td>2003</td>
</tr>
<tr>
<td>BENZOATES</td>
<td>210-213</td>
<td>2003</td>
</tr>
<tr>
<td>BRILLIANT BLUE FCF</td>
<td>133</td>
<td>2005</td>
</tr>
</tbody>
</table>

Note 13: As benzoic acid.
Note 188: Not to exceed the maximum use level for acesulfame potassium (INS 950) singly or in combination with aspartame-acesulfame salt (INS 962).
Structure of the GSFA

- Table 3:
  - Additives permitted for use in food in general, unless otherwise specified, in accordance with GMP

<table>
<thead>
<tr>
<th>INS No</th>
<th>Additive</th>
<th>Functional Class</th>
<th>Year Adopted</th>
</tr>
</thead>
<tbody>
<tr>
<td>150a</td>
<td>Caramel I – plain caramel</td>
<td>Colour</td>
<td>1999</td>
</tr>
<tr>
<td>290</td>
<td>Carbon dioxide</td>
<td>Carbonating agent, Packaging gas, Preservative, Propellant</td>
<td>1999</td>
</tr>
<tr>
<td>410</td>
<td>Carob bean gum</td>
<td>Emulsifier, Stabilizer, Thickener</td>
<td>1999</td>
</tr>
<tr>
<td>407</td>
<td>Carrageenan</td>
<td>Bulking agent, Carrier, Emulsifier, Gelling agent, Glazing agent, Humectant, Stabilizer, Thickener</td>
<td>1999</td>
</tr>
<tr>
<td>427</td>
<td>Cassia gum</td>
<td>Emulsifier, Gelling agent, Stabilizer, Thickener</td>
<td>2012</td>
</tr>
<tr>
<td>140</td>
<td>Chlorophylls</td>
<td>Colour</td>
<td>1999</td>
</tr>
</tbody>
</table>
Structure of the GSFA

• Annex to Table 3

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.

<table>
<thead>
<tr>
<th>Category Number</th>
<th>Food Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>01.1.1</td>
<td>Milk and buttermilk (plain) (EXCLUDING HEAT-TREATED BUTTERMILK)</td>
</tr>
<tr>
<td>01.2</td>
<td>Fermented and renneted milk products (plain) excluding food category 01.1.2</td>
</tr>
<tr>
<td>01.4.1</td>
<td>Pasteurized cream (plain)</td>
</tr>
<tr>
<td>01.4.2</td>
<td>Sterilized and UHT creams, whipping or whipped creams, and reduced fat creams</td>
</tr>
<tr>
<td>01.6.3</td>
<td>Whey Cheese</td>
</tr>
<tr>
<td>01.6.6</td>
<td>Whey protein cheese</td>
</tr>
<tr>
<td>01.8.2</td>
<td>Dried whey and whey products, excluding whey cheese</td>
</tr>
</tbody>
</table>
Food Additive Requirements

Inclusion of provision in GSFA

GSFA

- INS System
- JECFA Evaluation
- JECFA ADI
- Food Category System
- Additive use Information (CX-Stan., Codex Members)
- Technological Justification
- Exposure Assessment (JECFA or Annex A)
- eWorking Groups
Food Additive Requirements

• It must have an entry in the International Numbering System (INS) –
  – Class Names and the International Numbering System for Food Additives (CAC/GL 036-1989)
  – A harmonized naming system for food additives
  – Also lists accepted technological functions

• Changes/Additions to the INS are administered by CCFA

<table>
<thead>
<tr>
<th>INS No.</th>
<th>Name of Food Additive</th>
<th>Functional class</th>
<th>Technological purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Curcumin</td>
<td>Colour</td>
<td>colour</td>
</tr>
<tr>
<td>100(i)</td>
<td>Curcumin</td>
<td>Colour</td>
<td>colour</td>
</tr>
<tr>
<td>100(ii)</td>
<td>Turmeric</td>
<td>Colour</td>
<td>colour</td>
</tr>
<tr>
<td>101</td>
<td>Riboflavin</td>
<td>Colour</td>
<td>colour</td>
</tr>
<tr>
<td>101(i)</td>
<td>Riboflavin, synthetic</td>
<td>Colour</td>
<td>colour</td>
</tr>
<tr>
<td>101(ii)</td>
<td>Riboflavin 5'-phosphate sodium</td>
<td>Colour</td>
<td>colour</td>
</tr>
<tr>
<td>101(iii)</td>
<td>Riboflavin from Baccillus subtilis</td>
<td>Colour</td>
<td>colour</td>
</tr>
<tr>
<td>102</td>
<td>Tartarzine</td>
<td>Colour</td>
<td>colour</td>
</tr>
<tr>
<td>103</td>
<td>Alkanet</td>
<td>Colour</td>
<td>colour</td>
</tr>
</tbody>
</table>
Food Additive Requirements

- It must have been reviewed by the Joint FAO/WHO Expert Committee on Food Additives (JECFA) and assigned an Acceptable Daily Intake (ADI).
  - For a new food additive to be evaluated by JECFA, it must be placed on the JECFA priority list. This list is administered by CCFA
  - Prior to reviewing the safety of a food additive, JECFA will put out a “call for data”. All interested members are invited to submit available toxicological and/or exposure data on the additive
  - JECFA meets once a year to examine the submitted data. If sufficient data is submitted, JECFA will either calculate a numerical ADI or list an ADI of “not specified”. JECFA’s review is subsequently published in a monograph (http://www.who.int/foodsafety/chem/jecfa/publications/monographs/en/).
  - JECFA may also publish an exposure assessment if sufficient data is provided
Food Additive Requirements

- A provision for the use of a food additive in a certain food category must be **submitted to CCFA for inclusion** in the GSFA
  - Initial provisions were taken from commodity standards
  - New provisions can be submitted by a Codex Member state
    - Products containing the additive should be in international trade and technological justification as per the preamble should be provided

- The new provision must contain a **maximum use level** (ML - either numeric or Good Manufacturing Practice (GMP))
  - The ML should correlate to JECFA’s ADI
    - Was the proposed use considered by JECFA in their exposure assessment?
    - Codex Members can submit their own exposure information
Food Additive Requirements

- A proposed provision is considered for inclusion in the GSFA by the CCFA via the **step process**:
  - Steps 1 and 2: The draft provision is prepared and entered into the GSFA as “proposed draft”
  - Step 3 – The proposed draft provision is circulated for comment by CCFA members
  - Step 4 – the comments are reviewed by CCFA
  - Step 5, 6, and 7 – provision is updated as a “draft”, circulated again for comment, and reviewed by CCFA
  - Step 8 – The provision is forwarded to the CAC for formal adoption into the GSFA
Further information

- GSFA is available at the Codex website: http://www.codexalimentarius.org/
- Only contains **adopted** (step 8) provisions
- Versions of the full GSFA (including draft and adopted provisions) are made available as information documents in PDF format prior to each meeting of the CCFA