# 20. ANNEX III – GUIDELINES OF THE CODEX ALIMENTARIUS COMMISSION FOR THE USE OF FLAVOURINGS

**CAC/GL 66-2008**

## 1.0 SCOPE

This guideline provides principles for the safe use of the components of flavourings evaluated by the Joint FAO/WHO Expert Committee on Food Additives (JECFA) and determined to present no safety concern at estimated levels of intake, or that have established JECFA acceptable daily intakes (ADIs), and for which corresponding specifications of identity and purity have been established and adopted by Codex.[1] In addition, the guideline provides principles for the establishment of practices that do not mislead the consumer.

## 2.0 DEFINITIONS

**2.1 Flavour** is the sum of those characteristics of any material taken in the mouth, perceived principally by the senses of taste and smell, and also the general pain and tactile receptors in the mouth, as received and interpreted by the brain. The perception of flavour is a property of flavourings.

**2.2 Flavourings** are products that are added to food to impart, modify, or enhance the flavour of food (with the exception of flavour enhancers considered as food additives under the Codex Class Names and the International Numbering System for Food Additives - CAC/GL 36-1989). Flavourings do not include substances that have an exclusively sweet, sour, or salty taste (e.g. sugar, vinegar, and table salt). Flavourings may consist of flavouring substances, natural flavouring complexes, thermal process
flavourings or smoke flavourings and mixtures of them and may contain non-flavouring food ingredients (Section 2.3) within the conditions as referred to in 3.5. They are not intended to be consumed as such.

**2.2.1 Flavouring substances** are chemically defined substances either formed by chemical synthesis, or obtained from materials of plant or animal origin.

**2.2.1.1 Natural flavouring substances** are flavouring substances obtained by physical processes that may result in unavoidable but unintentional changes in the chemical structure of the components of the flavouring (e.g. distillation and solvent extraction), or by enzymatic or microbiological processes, from material of plant or animal origin. Such material may be unprocessed, or processed for human consumption by traditional food-preparation processes (e.g. drying, torrefaction (roasting) and fermentation). This means substances that have been identified / detected in a natural material of animal or vegetable origin.

**2.2.1.2 Synthetic flavouring substances** are flavouring substances formed by chemical synthesis.

**2.2.2 Natural flavouring complexes** are preparations that contain flavouring substances obtained by physical processes that may result in unavoidable but unintentional changes in the chemical structure of the flavouring (e.g. distillation and solvent extraction), or by enzymatic or microbiological processes, from material of plant or animal origin. Such material may be unprocessed, or processed for human consumption by traditional food-preparation processes (e.g. drying, torrefaction (roasting) and fermentation). Natural flavouring complexes include the essential oil, essence, or extractive, protein hydrolysate, distillate, or any product of roasting, heating, or enzymolysis.

**2.2.3 Smoke flavourings** are complex mixtures of components of smoke obtained by subjecting untreated wood to pyrolysis in a limited and controlled amount of air, dry distillation, or superheated steam, then subjecting the wood smoke to an aqueous extraction system or to distillation, condensation, and separation for collection of the aqueous phase. The major flavouring principles of smoke flavourings are carboxylic acids, compounds with carbonyl groups and phenolic compounds.[2]

**2.3 Non-flavouring food ingredients** are food ingredients, such as food additives and foodstuffs that can be added to flavourings and are necessary for dissolving, dispersing, or diluting flavourings, or are necessary for the production, storage, handling and use of flavourings.

## 3.0 GENERAL PRINCIPLES FOR THE USE OF FLAVOURINGS

**3.1** The use of flavourings in food should not lead to unsafe levels of their intake.

**3.2** Flavourings should be of a purity suitable for use in food. Unavoidable impurities should not be present in the final food at levels that would pose an unacceptable risk to health.

**3.3** The use of flavourings is justified only where they impart or modify flavour to food, provided that such use does not mislead the consumer about the nature or quality of food.

**3.4** Flavourings should be used under conditions of good manufacturing practice, which includes limiting the quantity used in food to the lowest level necessary to accomplish the desired flavouring effect.

**3.5** Flavourings may contain non-flavouring food ingredients, including food additives and foodstuffs, necessary for their production, storage, handling, and use.

Such ingredients may also be used to facilitate the dilution, dissolution, or dispersion of flavourings in food. Non-flavouring food ingredients should be:

Limited to the lowest level required to ensure the safety and quality of the flavourings, and to facilitate their storage and ease of use;

Reduced to the lowest level reasonably possible when not intended to accomplish a technological function in the food itself; and,

used in accordance with the provisions of the Codex General Standard for Food Additives (GSFA; CODEX STAN 192) whenever they are intended to provide a technological function in the finished food.

## 4.0 FLAVOURING SUBSTANCES AND COMPONENTS OF NATURAL FLAVOURING COMPLEXES THAT MAY REQUIRE SOME RISK MANAGEMENT MEASURES

**4.1** Some flavourings substances, and substances that may be components of natural flavouring complexes, or of food ingredients with flavourings properties (e.g. herbs and spices) may be identified by Codex members to be of potential health concern. Based on the evaluations by the JECFA, the Codex Alimentarius may consider proposals for specific risk management measures for certain flavouring substances or components of natural flavouring complexes to ensure consumer protection.

**4.2** It may be appropriate in certain cases for Members to establish risk management measures to minimize specific risks. To avoid potential conflicts in risk management decisions between Codex and its members, any risk management measures selected by Members should complement existing Codex risk management guidance and take into account relevant JECFA evaluations.

**4.3** When establishing risk management measures to reduce the risk to human health from such flavouring substances whether added as such or as components of natural flavouring complexes or as naturally occurring components of food, the following criteria should be considered.

An appropriate risk assessment of the flavouring substance, component of a natural flavouring complex or a naturally occurring component of food has been conducted.

The risk assessment has identified a specific human health risk associated with the presence of the substance in food as a result of its use as a flavouring substance, as a component of a natural flavouring complex or as a naturally occurring component of food.

Acceptable maximum levels for substances of concern in specific

foods have been established based on an assessment of dietary exposure using an appropriate method to ensure that the intake of the substance from all sources does not present a safety concern.

A reference to a validated analytical method for the determination of the substance in food should be available. Methods of analysis should comply with the Principles for the Establishment of Codex Methods of Analysis (CAC Procedure Manual.).

## 5.0 HYGIENE

**5.1** It is recommended that flavourings covered by the provisions of these guidelines be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice ï General Principles of Food Hygiene (CAC/RCP 1-1969), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.ò

**5.2** Flavourings should comply with any microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997).

## 6.0 LABELLING

Labelling of flavourings should be in accordance with the requirements of the Codex *General Standard for the Labelling of Food Additives when sold as such* (CODEX STAN 107-1981). Labelling of foods containing added flavourings should be in accordance with the requirements of the *General Standard for the Labelling of Prepackaged Foods* (CODEX STAN 1-1985).

## 7.0 JECFA EVALUATIONS OF FLAVOURINGS AND THEIR SPECIFICATIONS

The flavourings for which JECFA has completed its safety evaluation are available from the WHO JECFA website, (http://www.who.int/ipcs/publications/jecfa/en/index.html) through the link *Database of evaluation summaries,* or by contacting the WHO JECFA Secretariat. Specifications for flavouring substances evaluated by JECFA are available, in an on-line searchable database at the FAO JECFA website (http://apps3.fao.org/jecfa/flav_agents/flavag-q.jsp), or by contacting the FAO JECFA Secretariat.

[1] This guideline does not imply that the uses of flavouring components that have not yet been evaluated by JECFA are unsafe or otherwise unacceptable for use in food.

[2] FAO JECFA Monographs 1 (Volume 3) 2005 FAO Rome.