

# “EEC Flavour Directive”

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## Development

The EEC-Flavour-Directive [Council Directive on the approximation of the laws of the Member States relating to flavourings for use in foodstuffs and to source materials for their production (88/388 EEC \* 22.06.88)] has been discussed for many years. The directive is a “framework directive” with definitions, special provisions for the production of flavourings and labeling provisions.

During the years of debate many compromises were discussed. A system of different positive lists for all categories of flavour materials was proposed at first, but it was not acceptable by all Member States. This compromise is based on open inventories for the different aromatic materials. A special Council Decision about the inventories [Council Decision on the establishment, by the Commission, of an inventory of the source materials and substances used in the preparation of flavourings (88/389 EEC \* 22.06.88)] describes the collection of all the important data during a period of two years up to the end of June 1990.

The Member States, the Scientific Committee

and the European Flavour Industry will put together all their knowledge about flavour materials. This kind of cooperation will help to ensure an input of high quality.

### Main requirements

*Definitions*—The directive refers to flavourings as ingredients whose only purpose is to give a certain flavour to foodstuffs. The word "flavour" describes a complex sensation provided by a composition of many defined aromatic ingredients. Flavourings are produced by technical processes and contain solvents or carriers or in certain cases other ingredients (such as additives) with technological functions. Many kinds of food can be used as solvents or carriers. As far as additives are concerned one must refer to article 6 paragraph 1.

The flavour components are described as follows:

*Natural flavouring substances*—obtained by appropriate physical processes (including distillation and solvent extraction) or enzymatic or microbiological processes from material of vegetable or animal origin either in the raw state or after processing for human consumption by traditional food-preparation processes (including drying, torrefaction and fermentation).

*Nature-identical flavouring substances*—obtained by chemical synthesis or isolated by chemical processes and which is chemically identical to a substance naturally present in material of vegetable or animal origin.

*Artificial flavoring substances*—obtained by chemical synthesis but which is not chemically identical to a substance naturally present in material of vegetable or animal origin.

*Flavouring preparations*—products, other than natural substances whether concentrated or not, with flavouring properties, obtained by appropriate physical processes (including distillation and solvent extraction) or by enzymatic or microbiological processes from material of vegetable or animal origin, either in the raw state or after processing for human consumption by traditional food-preparation processes (including drying, torrefaction and fermentation).

*Process flavourings*—products obtained according to good manufacturing practices by heating to a temperature not exceeding 180° C. for a period not exceeding 15 minutes a mixture of ingredients, not necessarily themselves having flavouring properties, of which at least one contains nitrogen (amino) and another is a reducing sugar.

*Smoke flavourings*—smoke extracts used in traditional foodstuffs smoking processes.

The definitions are comprehensive. Their basis is found in some national flavour regulations and in the code developed by the International Organization of the Flavour Industry (IOFI). They are practical and can be transferred easily into national food law.

### Production methods

As far as product safety is concerned, there are provisions with rules about toxicological contaminants of flavourings (article 4). Health risks that could arise from "undesirable substances" and "natural materials with active principles" are excluded by special provisions mentioned in annexes to the directive. It is felt that the negative lists and those with certain restrictions grow in the future as the knowledge about substances and their potential hazards will grow.

Article 5 describes a system of inventories for flavouring source materials and ingredients and, furthermore, production methods for "natural flavouring substances" and "flavouring preparations."

As far as these inventories are concerned, reference has been made to the Council decision on their establishment.

There will be data-collections concerning the

following items:

1. Aromatic raw materials. Foodstuffs, herbs and spices considered as food. Aromatic "non-food" raw materials of vegetable or animal origin.

2. Flavouring substances identified in nature. This data collection will start with a comprehensive work on natural occurrence of food volatiles.

3. Artificial flavouring substances. Reference will be made to existing lists (FEMA, IOFI, etc.).

4. Process flavourings, smoke flavourings. It seems to be appropriate to refer to the work done by IOFI and Council of Europe.

This system of inventories is something new and complex. There will be a tremendous amount of work for everyone involved. This concept is a compromise between those groups who preferred a closed positive list system and those who opposed this concept and preferred a mixed list system. The compromise might help both. The scientific evaluation will last some years. Therefore it is important that all groups involved work closely together. Eventually there may be positive-lists for artificial flavouring substances as well as the materials used for the production of process flavourings and smoke flavourings. For the other categories of aromatic materials it is more appropriate to have negative-lists or so called restrictive-lists in connection with the inventories.

The use of processing aids and additives for the production of flavourings is detailed in article 6. Based on existing knowledge there is no problem to institute lists for these kinds of materials. The flavour industry feels that it could be useful to have annexes to the directive with all special additives—e.g. carriers, solvents, flavour enhancers, preservatives, antioxidants—used for the production of flavourings. Materials defined as foods and used for the purposes described here are not regulated in this article. They can be used freely as far as their use refers to a certain technological function.

### **Labeling provisions**

The labeling provisions for flavourings (article 9) are quite similar to the European provisions of foodstuffs. The sales description must contain the word "flavouring" or a "more specific name" or a "description of the flavouring." A more specific name might be "strawberry-flavour," "lemon-distillate," "pepper-extract" or other descriptions referring to fruits, vegetables and other sources.

The labeling of the attribute "natural" is allowed when all the flavour ingredients can be defined as natural flavouring substances and/or natural flavouring preparations. Any additional labeling, referring to a certain flavouring-

source—fruit, vegetable, herb, spice—only is acceptable in those cases, where the natural flavour is derived solely or almost solely from the foodstuff or the flavouring source concerned. This means that “natural” flavouring preparations can be rounded up by other natural flavouring components.

In this context it should be observed that on the one hand the weight of the main ingredients is a factor. On the other hand, their taste is a factor. Therefore it is important to regard the flavour from both sides. Most of the marketed natural flavourings contain flavour ingredients from other but the main and name giving source material. As an example: a natural orange flavour also contains extracts from lemon. There are lots of similar examples. The taste of the name giving source is important.

The flavour-industry is faced with the fact that in future “lists of ingredients” have to be labeled. The different categories of flavouring components (natural flavouring substances and/or nature-identical flavouring substances and/or artificial flavouring substances and/or flavouring preparations and/or process flavourings and/or smoke flavourings) used for the production must be labeled in the descending order of weight. Furthermore all other ingredients used for technological purposes have to be labeled in the same way. Additives must be labeled with their name and/or, if exists, with their E-number.

### Conclusions

The new flavour directive is the cornerstone of a harmonization of European flavour law. This is very important for European integration. Known distortions of competition as they exist, for example between the Member States as far as the provisions of production and labeling are concerned, can be reduced to a minimum.

But for the time being some questions are left open with regard to the provisions about food flavouring. The question if and how foodstuffs can be flavoured still belongs to the regulations and standards of different food categories, and they differ quite often from country to country. There is some need to harmonize these provisions.

The European flavour industry is confronted with the challenge to derive inventories for the different categories of aromatic materials that can be used for the production of flavourings. These inventories must be seen positively. They give a chance for an evaluation of the flavourings and their ingredients and, by the way, the richness of European flavoured foodstuffs can be expressed. European flavour industry tries to compose “na-

ture near tastes.” Therefore the inventories will be long, and this catalogue of materials will be a useful tool for flavorists. Good taste composed with a huge amount of ingredients will enforce the inventories as a basis for consumer acceptance.

An evaluation of flavourings and their components generally seems to be expected, but it is questioned whether flavourings have those health risks some people think. The aromatic properties of flavourings are such that they are largely self-limiting. In this context it can be demonstrated that normally a quantity of 100 g of a flavouring is sufficient to flavour 100 kg of a foodstuff and this is equal to a quantity of about 10 g flavouring substances for this purpose. When one regards these quantities it is important to realize that the European flavour industry has available about 4,000 to 5,000 different flavouring substances and many natural flavour preparations. Therefore the exposure of the consumer to quantities of single flavouring substances is minimal. “It’s the quantity of something that might be harmful to someone.” Judged in this way flavourings are inherently as safe as natural food.

Looking forward, the flavour directive offers a basis for trustful cooperation among authorities, scientists and industry. The future work will be based on common sense. The present compromise is the result of talks and understanding. The work will continue. There will be the chance to come closer together to solve the problems that still exist.

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