



Food Additives

IDF Factsheet – October 2012



What are food additives ?

The definition of a Food Additive is described by the Codex Alimentarius, which is a joint WHO/FAO Food Standards Programme. Food additive means any substance:

- not normally consumed as a food by itself;
- not normally used as a typical ingredient of the food (whether or not it has nutritive value);
- added intentionally to food for a technological (including organoleptic) purpose in the manufacture, processing, preparation, treatment, packing, packaging, transport or holding of such food;
- which addition 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.

Substances added to food for maintaining or improving nutritional qualities or “contaminants” are not included in the definition of Food Additives.

Why are additives used?

Additives are used at very low levels to fulfil specific technical functions in the food such as:

- Maintaining a food’s nutritional quality, for example by preventing the degradation of vitamins, essential amino acids and unsaturated fats;
- Extending the shelf life of a product, for example by preventing mould from growing or improving the transport/refrigeration conditions of a food, which will spoil less quickly;
- Maintaining and improving a product’s sensory properties, such as texture, consistency, taste, flavour and colour, for example to compensate seasonal variations and according to consumers taste preferences;
- Being able to provide products for consumers with specific nutritional requirements, such as diabetics who need products containing sweeteners rather than sugar;
- Being able to meet consumers’ growing demands for different tastes, variety and convenience. By using additives, food industry can offer consumers foods from all over the world;
- Reducing the environmental impact of food: without additives consumers would have to shop for food almost every day.





How to determine if an additive is safe and justified?

Additives have been used for thousands of years, to preserve food from one harvest to the next, and to make food taste and look nicer. Additives originate from various sources - many are derived from plants and others are produced by synthesis or fermentation.

Only those additives that are shown to be safe at the levels of use that have been proposed are allowed to be used in food. It must also be proved that there is a need for the additive in products— if this need cannot be demonstrated, then the additive will not be allowed for use. So, it is essential that before it is used in food, any food additive be rigorously tested to ensure that it is safe, and these results must be checked by independent experts.

Worldwide, the most important scientific panel of independent experts is the Joint FAO/WHO Expert Committee on Food Additives – JECFA. This group of international experts is sponsored jointly by the Food and Agricultural Organization of the UN and the World Health Organization. The basic approach to evaluate the safety of food additives involves toxicological testing. Various methods are used to assess the risks, primarily animal feeding studies. These conclusions are used to predict what the effects will be in humans. This is used to establish an Acceptable Daily Intake.

What is the Acceptable Daily Intake for an additive?

The Acceptable Daily Intake, or ADI, is defined as an estimate of the amount of a food additive, which can be ingested daily over a lifetime without appreciable health risk, expressed on a body weight basis. This is used by regulatory agencies to set safe use levels for additives in food.



A reasonable safety factor is taken into account for the differences between animals and humans, and also to allow for the variability between different people, such as age, health and how well nourished they are.

The ADI is not a level of toxicity – it is a level that has been found to be safe. Consuming more than this on occasions is unlikely to cause health problems, as long as the average daily intake is below the ADI. It should always be compared with average consumption levels over long periods, not with intakes on a day-to-day basis.

Moreover, the ADI in humans is set 100 times lower than the observed value in animals so that more sensitive groups of the population, such as children or the elderly, are covered. And exceptional consumption is taken into account by assessing exposure during prolonged periods using ‘worst case’ calculations.



International Dairy Federation www.fil-idf.org

- Codex General Standards for Food Additives (GFS): <http://www.codexalimentarius.net/gsaonline/index.html?lang=en>
- Joint FAO/WHO Expert Committee on Food Additives (JECFA): <http://www.who.int/ipcs/food/jecfa/en/>
- European Food Safety Authority: <http://www.efsa.europa.eu>
- US Food and Drug Administration: <http://www.fda.gov/>
- Food Standards Australia New Zealand: <http://www.foodstandards.gov.au/foodmatters/foodadditives.cfm>
- <http://www.nzfsa.govt.nz/consumers/chemicals-nutrients-additives-and-toxins>