



Suitability of Food Additives: Combating Chemophobia and Consumer Misunderstanding

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Safety of Food Additives

- Food additives have been used safely for decades.
- Food additives are thoroughly studied, including extensive toxicological testing and consideration of quality and specifications, before they are approved for use in food.
- Testing includes short-term and long-term toxicity studies, including carcinogenicity studies with a built in safety factor to account for uncertainties.



Suitability of Food Additives

- Food additives afford us the convenience and enjoyment of a wide variety of appetizing, nutritious, fresh and palatable foods.
- Food additives are critical to safe and nutritious foods and beverages.
- Food additives used for technical purposes in finished foods fall into four main categories:
 - Support nutrition delivery
 - Support the maintenance of food quality and freshness
 - Aid in processing and preparation of foods
 - Make foods appealing to the consumer



Feeding the World

- Global Population Growth:
 - 7 billion by 2010
 - 9 billion by 2050
- That is *75 million* more people to feed each year.
- Almost 1 billion don't have enough food today.
- Food additives provide a solution to keep food safe and minimize food waste.



Food Additives Have Many Technological Functions in Foods

- Codex International Numbering System (INS) lists 23 functional classes for food additives, such as gelling agent, emulsifier, anticaking agent, etc.
- System is hierarchical in that each of the 23 functional classes has sub-classes with additional functions.



Good Manufacturing Practices (GMP)

- GMPs state lowest level of food additive necessary to achieve technological function should be used in finished foods and beverages.
- Manufacturers apply this principle in finished foods and beverages.



IFAC's Good Manufacturing Practice and Quality Assurance Guide

- The food additive industry is significantly different than the food industry (e.g., production, packaging, etc.).
- Food additives undergo further downstream processing by customers/manufacturers.
- GMPs for finished foods are not necessarily relevant to food additives.



IFAC GMP and Audit Guides

- Guides developed by IFAC Food Safety Committee

- Ashland
- Chr. Hansen
- Colorcon
- CP Kelco
- Danisco (DuPont)
- Decernis
- FMC Corporation
- ICL Food Specialties
- Innophos
- Kerry Ingredients & Flavours
- Lubrizol Advanced Materials
- Pinova
- Prayon

- Represent voluntary guidance

- Provide GMP and quality assurance principles to ensure safe manufacture of food additives and GRAS substances

- Incorporate FDA Food Safety Modernization Act requirements and may be used to inform existing regulations in other countries



IFAC GMP and Audit Guides



Available at: www.foodadditives.org/foodsafety



Food Additives are Self-Limiting

- Inherent properties of food additives (such as taste or technological functions) limit the amount that can be added to foods.
- Too much of an additive can result in undesirable effects or off-taste.
- Example: food gum in salad dressing is self limiting because at high levels, gums become viscous and thick and block flow of salad dressing.
- For these reasons, manufacturers use no more of any food additive than absolutely necessary in finished foods and beverages.



“Chemophobia”

- Chemophobia: “fear of chemicals”
- Emerging trend that consumers are afraid of ingredients in food, due to the perception that they are “unnatural.”
- Consumers more than ever want to know what’s in their food.
- However, most consumers have a fundamental misunderstanding of the role of food additives:
 - Do not understand safety evaluations;
 - Do not understand benefits;
 - Do not understand food additive names



Example: “Ascorbic Acid” vs. “Vitamin C” on a Product Label



Chemophobia perpetuated by the media and food advertisers

Chemophobia is perpetrated by the media and even food advertisers.

- “Is Pink Slime in the Beef at Your Grocery Store?” (ABC News)
- “Diet Soda is doing these 7 awful things to your body” (Today Health)
- “13 Scary Food Additives to Avoid” (ABC News)
- No artificial ingredients or flavors on labels



Misunderstandings of Safety

- Natural ingredients and food itself (i.e., grain, meat, vegetables) are “substances.”
- Food additives are “substances” too.
- Natural ingredients have no inherent safety that is any different than for food additives.
- Each “substance” has its own safety profile which is dependent on that substance regardless of its source (natural or synthetic).
- Natural ingredients can be toxic and harmful:
 - Just because something is “natural” doesn’t mean it is safe.
 - Just because something is “synthetic” doesn’t make it unsafe.



Role of Manufacturers and Regulators

- Educate consumers about food additive safety.
- Provide simple, clear messages about the role and necessity of food additives (e.g. create stable safe food supply for all to enjoy.
 - www.makingfoodbetter.org
- Create and maintain standards based on science.
- Create and maintain standards based technological need/function.





Questions?

Thank You!

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