

Safety and legislation of food packaging

Safety:

Safety is the state of being “**Safe**” the condition of being protected from harm or other undesirable outcomes.

Safety can also refer to the control of recognized hazards in order to achieve an acceptable level of risk.

Legislation:

Legislation is the process of making laws.

Food packaging:

Packaging is the art, science and technology of preparing products for market.

Food packaging legislation:

Food packaging legislation is the act of making laws by government to regulate the requirements regarding food packaging products and materials which are generally intended to preserve the physical, chemical and sanitary integrity of food products.

Food packaging legislation

Following is a brief summary of the key regulations and standards applicable to food packaging products and materials in key global jurisdictions.

FDA

The FDA enforces the Food, Drug and Cosmetic Act from 1958, which is the basic regulation on food contact materials, as well as other relevant acts. Mostly, food contact materials are regulated in the Code of Federal Regulations under title 21 on food and drugs, part 176-186 and further fall under specific regulations depending on their use.

1. Packaging processes and materials shall not transmit contaminants or objectionable substances to the products, shall conform to any applicable food additive regulation and should provide adequate protection from contamination.
2. A food shall be deemed to be misbranded if its container is so made, formed, or filled as to be misleading. A container that does not allow the consumer to fully view its contents shall be considered misleading if it contains nonfunctional slack-fill. Slack fill is the difference between the actual capacity of a container and the volume of product contained therein.

3. Packaging materials are considered an “indirect food additive”. Restated, improper packaging materials could cause the food product to be considered adulterated. Indirect food additives are defined as materials that come into contact with food as part of packaging, holding, or processing; indirect food additives are not intended to be added directly to, become a component, or have a technical effect in or on the food. Indirect food additives (e.g. packaging) may be only used under conditions of good manufacturing practice; that is, the quantity.
4. Does not exceed the amount reasonably required to accomplish the intended effect in the food.
 - a. Shall not exceed any prescribed limitations.
 - b. Shall not be intended to accomplish any physical or technical effect in the food except as permitted by regulation.
 - c. The article that contacts food shall be of purity suitable for its intended use.
5. There is a list of colorants for polymers which can be safely use in producing, manufacturing, packing, processing, preparing, treating, transporting, or holding food but it should not migrate to food in amounts that will contribute to that food any color apparent to the naked eye. The colorant must be used in accordance with current good manufacturing practice, including use levels which are not in excess of those reasonably required to accomplish the intended coloring effect.
6. Petroleum waxes, synthetic petroleum waxes and reinforced wax are permissible in food contact materials (Packaging if they meet certain specification i.e. its oil content not exceeding 2.5 percent and absorption should be 290 millimicron).
7. Plastic polymers can be used according to prescribed conditions. FDA proposed to limit residual VCM levels to 10 ppb in rigid PVC food contact articles and 5 ppb in plasticized PVC. In 1975, the commissioner published a regulation that limited residual acrylonitrile monomer levels to 80 ppm in the wall of the container and stipulated that monomer migration into the food could not be greater than 0.3 ppm.
8. Although aluminum is nonessential metal to which humans are frequently exposed, it has a long history of safe usage in connection with food and food packaging, and is deemed to be GRAS by the US FDA.
9. Glass is also regulated under FDA’s status as a GRAS substance.
10. FDA also provide list of packaging materials which may be subjected to a dose of radiation, not to exceed 10 KGy, unless otherwise indicated, incidental to the use of gamma, electron beam, or x-radiation in the radiation treatment of prepackaged food i.i. glassine and Kraft paper.

European Union

In the EU, requirements applicable to food packaging materials are detailed in Framework Regulation (EC) No. 1935/2004 which establishes minimum requirements applicable to most types of food packaging. These requirements mandate that all packaging materials:

1. Are safe
2. Do not transfer components or chemicals to food so as to endanger human health, change food composition or adversely affect food taste or odor
3. Are produced consistent with good manufacturing practices, consistent with the requirements of Regulation (EU) No. 2023/2006.
4. Are traceable through the production chain
5. Bear the EU's "glass-and-fork" symbol or otherwise labeled to signify compliance with the requirements.
6. Under Regulation 1935/2004, packaging materials must be authorized by the European Food Safety Authority (EFSA) prior to being placed on the market. Food packaging materials that have been authorized are listed in a publically-available online database maintained by the EFSA.
7. It provides a complete list of permissible monomers for use in food contact plastic materials and an overall migration limitation that must be met for all plastics in contact with food. For most packaging, the overall migration must not exceed 10 mg per square decimeter of the article.

Pakistan HALAL authority laws

- All halal food stored, served and displayed should be labeled as halal
- Packaging should be carried out in a clean, hygienic and sanitary conditions and temperature satisfies safety and quality of product
- Carcass shall be appropriately packed in clean, new, sound and odorless packages that shall in no way adversely affect the quality of product.

THE PUNJAB FOOD AUTHORITY ACT 2011

False labeling

- Any person, who prepares, packages, labels any food which does not comply with the prescribed standard, shall be liable to imprisonment for a term which may extend to six months and fine which may extend to one million rupees.
- Any person, who labels any food in a manner which is false, misleading or deceptive as regards its character, nature, value, substance, quality, composition, merit or safety, strength, purity, weight, origin, age or proportion shall be liable to imprisonment for a term which may extend to six months and fine which may extend to one million rupees.

THE PUNJAB PURE FOOD RULES, 2011

Mode of labeling of pre-packed food

1. No person shall sell by retail or display for sale by retail, any pre-packed food unless there appears on a label marked on or securely attached to the wrapper or container a true statement which:
 - a. Shall be clearly legible and shall appear conspicuously and in a prominent position on the label and if the food is pre-packed in more than one wrapper or container, the label shall be marked on or attached to the innermost wrapper or container and if it is not clearly legible through the outermost wrapper or container, a label bearing like statement shall be marked on the outermost wrapper or container.
2. shall specify the name of the manufacturer and complete address at which such person carries on business, and, in case of imported food, the name of either the manufacturer or the agent, as the case may be, the name and complete business address of the importer in Pakistan and the name of the country of origin of food.
3. Shall also specify the ingredients of food product
4. The label shall also bear:
 - a. The license number and batch number, lot number or code number either in numerical or alphabets or in combination.
5. In this rule “date marking” in relation to a package of food, means a date permanently marked or embossed on the package or in the label on the package of any food signifying the manufacturing date and the expiry date of minimum durability of that food.

Furthermore, Punjab Food Authority is working on food packaging laws and there is hope that these laws will bring revolution in food department.