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GOVERNMENT OF THE PUNJAB  
LAW AND PARLIAMENTARY AFFAIRS DEPARTMENT

## NOTIFICATION (71 of 2018)

23 May 2018

Notification No.DG/PFA/ADG(A)/2018/1837, dated 22.05.2018, issued by Punjab Food Authority, is hereby published for general information:



**\*GOVERNMENT OF THE PUNJAB  
THE PUNJAB FOOD AUTHORITY**

Dated Lahore, the 22<sup>nd</sup> May 2018

## **NOTIFICATION**

Notification No.DG/PFA/ADG(A)/2018/1837.- In exercise of the powers conferred under section 57 of the Punjab Food Authority Act, the Punjab Food Authority is pleased to frame the following regulation;

### ***Punjab Food Authority (Food Packaging/Contact Material) Regulation, 2018.***

**Preamble:-** Whereas, in order to provide the practical advice that only safe plastic packaging material and articles should be used to ensure provision of safe food to the public.

It is enacted as follows:-

#### **1. Short Title, Extent and Commencement:-**

- i. These regulations may be cited as Punjab Food Authority (Food Packaging/Contact Material) Regulations, 2018.
- ii. These regulations extent to the whole of the Punjab.
- iii. These regulations come into force with immediate effect from the date of its publication in the official gazette.
- iv. These regulations shall apply to the following;
  - a) Food Packaging/Contact Material intended to come into contact or are brought into contact with food and are intended for that purpose;
  - b) Business Operators as defined in these regulations.

#### **2. Definitions: In these regulations:-**

- i. "Act": means the Punjab Food Authority Act, 2011.

- II. **"Competent Authority"**: means the Director General of the Food Authority.
- III. **"Food"**: means as defined in the act.
- IV. **"Food Packaging/Contact Material"**: means and includes:-
- a) Materials, articles and parts thereof consisting exclusively of plastics or plastic multi-layer materials and articles held together by adhesives or by other means; plastic layers or plastic coatings, forming gaskets in caps and closures, that together with those caps and closures compose a set of two or more layers of different types of materials or plastic layers in multi-material multi-layer materials.
  - b) Any material in which a food is prepackaged and delivered for sale as a separate individual unit, whether by completely or partially wrapping the food. It may enclose several units or types of wrappings when such is offered to the consumer.
- V. **"Business Operator"**: means any food industry and packaging /contact material industry or any person carrying out any of the activities related to any stage of manufacturing, processing and distribution of food packaging material.
- VI. **"Food Operator"**: means as defined in the Act.
- VII. **"License"**: means as defined in the Act.
- VIII. **"Food Safety Officer"**: means as defined in the Act.
- IX. **"Premises"**: means any place, building or any other structure where any food packaging material is manufactured, stored or sold.
- X. **"Standard"**: in relation to any food packaging/contact material means the standards appended with these regulations.
- XI. **"Plastic"**: means a polymer to which additives or other substances may have been added, which is capable of functioning as a main structural component of final materials and articles.
- XII. **"Active materials and articles"**: means materials intended to extend the shelf-life or to maintain or improve the condition of packaged food; they are designed to deliberately incorporate components that would release or absorb substances into or, from the packaged food or the environment surrounding the food.
- XIII. **"Additive"**: means a substance which is intentionally added to plastics to achieve a physical or chemical effect during processing of the plastic or in the final material or article; it is intended to be present in the final material or article.
- XIV. **"Aid to Polymerization"**: means a substance which initiates polymerization and/or controls the formation of the macromolecular structure.
- XV. **"Functional barrier"**: means a barrier consisting of one or more layers of food contact materials, which ensures that the finished material or article complies with the international requirements.

- XVI. **"Food Simulant"**: means a test medium imitating food; in its behavior the food simulant mimics migration from food contact materials.
- XVII. **"Intelligent materials and articles"**: means materials and articles which monitor the condition of packaged food or the environment surrounding the food.
- XVIII. **"Component"**: means an individual substance or a combination of individual substances which cause the active and/or intelligent function of a material or article, including the products of an in situ reaction of those substances; it does not include the passive parts, such as the material that are added to or incorporated into.
- XIX. **"Releasing active materials and articles"**: means active materials and articles designed to deliberately incorporate components that would release substances into or onto the packaged food or the environment surrounding the food.
- XX. **Released active substances"**: means the substances intended to be released from releasing active materials and articles into or onto the packaged food or the environment surrounding the food and fulfilling a purpose in the food.
- XXI. **"Polymer"**: means any macromolecular substance obtained by: (a) a polymerization process such as poly-addition or polycondensation, or by any other similar process of monomers and other starting substances; or (b) chemical modification of natural or synthetic macromolecules; or (c) microbial fermentation.
- XXII. **"Plastic multi-layer"**: means a plastic material or article composed of two or more layers of materials, each consisting exclusively of plastics, which are bound together by means of adhesives or by any other means.
- XXIII. **"Multi-material"**: means a material or article composed of two or more layers of different types of materials, at least one of them to be a plastic layer.
- XXIV. **"Monomer or other starting substance"**: means (a) a substance undergoing any type of polymerization process to manufacture polymers; or (b) a natural or synthetic macromolecular substance used in the manufacturing of modified macromolecules; or (c) a substance used to modify existing natural or synthetic macromolecules.
- XXV. **"Polymer production aid"**: means any substance used to provide a suitable medium for polymer or plastic manufacturing; it may be present but is neither intended to be present in the final materials or articles nor has a physical or chemical effect in the final material or article.
- XXVI. **"Non-intentionally added substance"**: means an impurity in the substances used or a reaction intermediate formed during the production process or a decomposition or reaction product.

- XXVII. **"Overall Migration limit (OML)"**: means the maximum permitted amount of non-volatile substances released from a material or article into food simulants.
- XXVIII. **"Specific migration limit (SML)"**: means the maximum permitted amount of a given substance released from a material or article into food or food simulants.
- XXIX. **"Total specific migration limit (TSML) "**: means the maximum permitted sum of particular substances released in food or food simulants expressed as total of moiety of the substances indicated.

### 3. General Guidelines Regarding Food Packaging Materials

- I. Low density polythene (LDPE) bags with and without blended biodegradable oxypolymers must not be used for food handling, packaging and transport. This law is applicable to all foods either processed or not processed, cold or hot foods.
- II. Recycled plastic, waste plastic bottles/jars, scrap plastic and hospital waste are not allowed for making food grade plastics.
- III. Only oil free air compressors are allowed for blowing plastics. Oil based compressors are banned for food grade plastics.
- IV. Disposable plastic plates, cups and elsewhere products are for one-time use only, they shall not be re-used for handling foods and drinks.
- V. The recycling status/plastic identification symbol/food use symbol must be mentioned on products. This includes category of plastic, temperature of usage, microwave symbol, halal status and supplier's information.
- VI. Food contact materials (FCM) makers/suppliers must provide FCM detailed specification to the Punjab Food Authority. (Format is provided in Annex 1, Table 4).
- VII. The use of newspapers, printed papers, magazines and elsewhere printed material as packaging or transport medium must be banned, with immediate effects on cooked/uncooked foods.
- VIII. The halal status of all FCMs must be labelled properly. The halal certification body must be a member of PNAC. The aseptic packaging and multi-layered laminated carton packaging material must use appropriate logos to ensure the halal aspects and safety.

- IX. The tinfoil containers used for packaging large quantity of oil and ghee must not be reused (applicable for tin and canning industries).
- X. Scratched PET bottles must be immediately discarded and shall not be used further. Moreover, compliance of standard usage must be supplied with PET bottles. The PET bottles are for one-time use only. Appropriate labelling is recommended for awareness.
- XI. The PC (polycarbonate) 19 liters (L) bottles contain BPA (Bisphenol-A), the migrating limit must be below than 500 mg/g. The limit also includes phenol and p-tert-butyl phenol. Maximum usage of PC bottle is 70 times or below (it shall be reviewed with in due course of time). Appropriate labelling is recommended for awareness.
- XII. Foamed polystyrene (including; Expanded Polystyrene (EPS), Expressed Polystyrene (XPS) and Oriented Polystyrene (OPS)) is banned for any usage as food packaging. It can be replaced by Polypropylene or paper.
- XIII. Five layered polythene composite sheets/bags must be used for packing 0.25, 0.5 and 1 L of oil and ghee, instead of monolayered or three-layered medium.
- XIV. PVC based cling films are fully banned for use as FCMs.

#### 4. Duties of the Business Operators

Following are the responsibilities of the business operator concerned with the manufacturing, import, distribution and sale of food packaging material;

I. The business operator will have the responsibility for the material and articles in contact with the food and as a consequence for the food safety itself. In the case of food operators (FOs) who are using materials and articles intended to come in contact with food, such as packaging and containers, kitchen equipment, cutlery and dishes, is responsible to ensure that Food Contact Materials (FCMs), particularly food packaging, are:

- Clearly labeled and supplied as FCM
- Traceable back to their supplier
- Used in accordance with manufacturer's instructions
- Used in compliance with the legislation and conform to the legal requirements of food contact materials

- Used safely to ensure the food is not contaminated
- II. The business operator has to supply packaging that is properly labeled and suitable for food contact. This means that they have to make sure that substances they use in the food contact material will not get transferred into or interact with food in concentrations that pose a danger to human health.
- III. The business operator has the responsibility to provide the complete relevant record in respect of food packaging material to the food safety officer at the time of inspection.

### 5. General Requirements

- I. Food Packaging/contact materials are all materials and articles intended to come into contact with food, such as packaging and containers, kitchen equipment, cutlery and dishes. These can be made from variety of materials including plastics, rubber, paper and metal.

Food contact materials also include those used in processing equipment, such as coffee makers or production machinery as well as containers used in transport action. The safety of materials in contact with food must be evaluated as molecules can migrate from the materials into the food. The materials and articles, including active and intelligent materials and articles, shall be manufactured in compliance with good manufacturing practices so that, under normal or foreseeable conditions of usage, they do not transfer their constituents to food in quantities which could:

*a) endanger human health; or*

*b) bring about an unacceptable change in the composition of the food; or*

*c) bring about a deterioration in the organoleptic characteristics thereof.*

- II. Food contact materials and articles comprise of a broad and complex range of goods. Among the most widely used materials are the plastic packaging materials and articles used for bottles, utensils, films and containers which are intended to be placed in contact with food. Plastic packaging materials include many types such as flexible films, soft, semi-rigid and rigid materials.

Many modern forms of plastic packaging make use of many of these in a single packaging product and they will also contain adhesives to bond layers together and coatings that allow the packaging to protect the food under what are often physically difficult conditions during controlled processing and transportation.

Increasingly, many plastic packaging materials can be wholly or partly made from recycled material.

The following general requirements for plastic packages used in packaging food materials shall be met:

- a) *All plastic raw materials used in manufacturing food packages shall be of known origin and composition to avoid use of scrap or used raw materials. In house recycling is exempted.*
- b) *They shall be clean and homogeneous, free from any foreign material, swelling or air pockets.*
- c) *They shall not cause any hazard to consumer health.*
- d) *They shall not lead to degradation of sensory properties of the packaged food material or occurrence of undesirable changes in the nature and quality of food material.*
- e) *Pigments, coloring materials, and other components used in their formulation and manufacture shall be nonpoisonous and with no tendency for migration which may cause migrated components to react or mix with the food material.*
- f) *They shall be resistant to impact effects caused by shocks and mechanical vibrations.*
- g) *They shall not be affected by heat during filling, closing, storing, transportation, or handling, in a way that deform them or change their composition, chemical or physical properties; or increase probabilities of reactions and migrations of monomers or additive materials within the permissible levels.*
- h) *Their resistance to acids and bases shall be suitable to the packaged food material, for intended life.*
- i) *The pH of a water solution within the range of 6-8 shall not be changed when placed in the package for one hour.*
- k) *They shall be non-reacting with organic solvents and oils in packaged food materials if stored for over 10 days.*
- l) *Their permeability to water vapor shall be suitable to the packaged food material for intended life.*
- m) *Their permeability to gases shall be suitable to the packaged food material for intended life of product.*

- n) They shall not be affected by light when exposed to it, till the intended life of the product.
- o) They shall have the ability of attaining tight closure (or sealing) when hermetic sealing used for food materials if intended by the product.
- p) The concentration (content) of vinyl chloride monomer shall not exceed 1 mg per kg of the plastic material in the final product.
- q) Bisphenol-A is not permitted to be used for the manufacture of polycarbonate infant feeding bottles.
- r) In the case of manufacturing multilayered packages from more than one material, it shall be necessary to get rid of the remaining of solvents, gluing materials, or major materials, such that the remains of all those solvents together shall not exceed 5 mg per square meter of the package surface.
- s) The solvents used in printing must be organic compounds consisting of alcohols, hydrocarbons, glycol ethers and esters. The usage of toluene, ethyl acetate and hexane are banned. The companies must comply with Annex 1, Table 4.

## 6. Labeling Requirement of Food Packaging/Contact Materials

The business operator will be responsible to ensure the following labeling requirements during manufacturing or processing of food packaging/contact materials;-

- I. Materials and articles, which are not yet in contact with food when placed on the market shall be accompanied by the words "**for food contact**" or the fork and glass symbol



**Figure 1:** Fork and glass symbol



- II. If necessary, special instructions to be observed for safe and appropriate use;
- III. The name or trade name and the contact details of the manufacturer, processor or seller responsible for placing on the market;
- IV. Adequate labeling or identification to ensure traceability;
- V. In case of active material and articles, information on the permitted use(s) and name and quantity of the substances released by the active component.

The information required above shall be clearly legible and indelible. The retail trade of materials and articles shall be prohibited if the information provided to the purchasers is not given in a language easily understood by them;

- A. At the marketing stages other than the retail stage, the information required above shall be displayed on:
  - i) The accompanying documents "declaration of compliance" or
  - ii) The labels or the packaging or
  - iii) The materials and articles themselves;
- B. At the retail stage, the information required above shall be displayed on:
  - i) The materials or articles or on their packaging, or
  - ii) Labels affixed to them or
  - iii) A notice in the immediate vicinity of the materials or articles

Additional rules on labeling shall be considered for the active and intelligent materials and articles including the released active substances to allow identification by the consumer of non-edible parts, active and intelligent materials and articles or parts thereof should be labeled with appropriate words "DO NOT EAT" or accompanied, where technically possible, by a symbol, (Figure. 2) whenever materials and articles or parts of them are perceived as edible.



**Figure 2:**








**NOTE:** Manufacturers must print the type of plastic material on the packaging preferably on the bottom of package (either name or abbreviation).

- VI. The traceability of any food contact material and article including the plastic, active and intelligent materials and articles shall be ensured at all stages in order to facilitate control, the recall of defective products, consumer information and the attribution of responsibility.

With due regard to technological feasibility, business operators shall have in place systems and procedures to allow identification of the businesses from who and to whom materials or articles and where appropriate, substances or products are supplied. The food packaging/contact materials and articles which are placed on the market shall be identifiable by an appropriate system which allows their traceability by means of labeling or relevant documentation or information.

**7. Compositional Requirements of Food Packaging/Contact Material**

- I. Plastics are made by condensation polymerization (poly-condensation) or addition polymerization (poly-addition) of monomer units. In poly-condensation, the polymer chain grows by condensation reactions between molecules and is accompanied by formation of low molecular weight byproducts such as water and methanol.
- II. Plastics as well as ion exchange resins, rubbers and silicones are macromolecular substances obtained by polymerization processes. As those materials are composed of different substances than plastics and have different physico-chemical properties specific rules for compositional requirements need to apply and it shall be made clear that they are not within this section of this code.
- III. There are several types of plastic that are used in food packaging, and can be identified by its Plastic Identification code (PIC) - usually a number or a letter abbreviation presented at the bottom of plastic packaging.
- IV. Multiple types of plastics are being used as materials for packaging food, including polyolefin, polyester, polyvinyl chloride, polyvinylidene chloride, polystyrene, polyamide and ethylene vinyl alcohol. Although more than 30 types of plastics have been used as packaging materials, polyolefins and polyesters are the most common.
- V. The recycling symbols will be affixed on front side of the disposable plastic packaging and single used containers. Non-disposable food-use goods like dinnerware, pitchers, flatware and baby bottles shall do not have a recycling label.

PLASTIC RECYCLING CHART						
						
PET	HDPE	PVC	LDPE	PP	PS	OTHER
POLYETHYLENE TEREPHTHALATE	HIGH DENSITY POLYETHYLENE	POLYVINYL CHLORIDE	LOW DENSITY POLYETHYLENE	POLYPROPYLENE	POLYSTYRENE	OTHER PC POLYCARBONATE

### 8. Risk Assessment

Plastics are made of monomers and other starting substances which are chemically reacted to a macromolecular structure, the polymer, which forms the main structural component of the plastics. To the polymer additives are added to achieve defined technological effects. The polymer as such is an inert high molecular weight structure. As substances with a molecular weight above 1000 Da usually cannot be absorbed in the body the potential health risk from the polymer itself is minimal. Potential health risk may occur from non- or incompletely reacted monomers or other starting substances or from low molecular weight additives which are transferred into food via migration from the plastic food contact material. Therefore, monomers, other starting substances and additives should be risk assessed and authorized before their use in the manufacture of plastic materials and articles (Annex 1, Table 4).

In the area of plastic materials and articles, some substances are toxicologically evaluated at the international references level or at the country-level in the world, but the others may not being risk assessed, and possible impurities, reaction and degradation products are not taken into consideration unless they have been evaluated in the risk assessment. Therefore, it is the manufacturer's responsibility to assess and ensure the safety of such substances that migrate from their products to ensure the safety of the product, the manufacturer shall apply scientifically based risk analysis in accordance with internationally recognized scientific principles taking into account exposure assessment in those instances where an established migrant into the food is not specifically regulated or recognized relevant legislations (Material Safety Data Sheet (MSDS) and Safety Data Sheet (SDS) must be provided and retention of one year old MSDS and SDS). Based on the risk assessment the authorization shall, if necessary, set out specifications for the substance and restrictions of use, quantitative restrictions or migration limits to ensure the safety of the final material or article. Substances used in the manufacture of plastic materials or articles may contain impurities originating from their manufacturing or extraction process. These impurities are non-intentionally added together with the substance in the manufacture of the plastic material (non-intentionally added substance- NIAS). Therefore, they may be present in the material or article but not necessary to be authorized. In spite of

many advantages of the different kinds of plastic packaging materials, it may cause health problems if misused as a result of leaking or migration of certain chemical compounds from the packaging material to food in levels and concentrations that might threaten human health or as a result of chemical reactions between food and packaging materials itself. So, using and handling these packaging with food should be according to the following directions:

- i) Only plastic containers that are labeled as microwave-safe shall be used for microwave cooking or reheating
- ii) Plastic packaging for microwaveable convenience meals are designed for one-time usage and should not be reused again in handling any kind of food.
- iii) Cling films shall not be used in conventional ovens or to cover hot, acidic and fatty food
- iv) Commercial plastic packaging that has been used for storing non-food items (e.g. detergents) shall not never be reused as food containers.
- v) Using EPS urea aldehyde melamine plates, cups, and other containers shall be banned in handling food, especially hot, fatty, and acidic food

#### **9. Substances Authorized to Be Used in The Manufacturing of Food Packaging/Contact Material.**

The Business operators shall be responsible for ensuring the compliance of substances may be used in the manufacture of plastics with the legal requirements pertaining to food contact materials. The Punjab Food Authority recognizes the lists of substances authorized for use in the manufacturing of plastics based on International Bodies and other countries (e.g. EU, USA, FSANZ, Japan), list of additives (excluding colorants), polymer production aids (excluding solvents), macromolecules obtained from microbial fermentation, monomers, and other starting substances, which may be intentionally used in the manufacturing of plastic materials and articles, together with the restrictions and/or specifications on their use, is extracted from EU lists in Annex I.

**Note:** Any amendment in European Union Lists and appendixes will also have the similar effect in the lists and the appendixes attached with these regulations.

#### **10. General Restrictions on Food Packaging/Contact Material**

- i) Food packaging/contact material shall not release the following substances in quantities exceeding the specific migration limits below:

Barium = 1 mg/kg food or food simulant  
Cobalt = 0.05 mg/kg food or food simulant

Copper = 5 mg/kg food or food simulant

Iron = 48 mg/kg food or food simulant

Lithium = 0.6 mg/kg food or food simulant

Manganese = 0.6 mg/kg food or food simulant

Zinc = 25 mg/kg food or food simulant

- ii) Plastic materials and articles shall not release primary aromatic amines, excluding those appearing in Annex I, in a detectable quantity into food or food simulant. The detection limit is 0.01 mg of substance per kg of food or food simulant. The detection limit applies to the sum of primary aromatic amines released.
- iii) A plastic layer and plastic layers in multi-material, multi-layer materials and articles and which is not in direct contact with food and is separated from the food by a functional barrier, may:
  - a. not comply with the restrictions and specifications, except for vinyl chloride monomer as provided in Annex I; and/or
  - b. be manufactured with substances not listed in the lists.

## 11. Specific Migration Limits (SML)

### Migration Limits

- i) Food Packaging/Contact Material shall not transfer their constituents to foods in quantities exceeding the specific migration limits (SML) mentioned in Annex I. Those specific migration limits (SML) are expressed in mg of substance per kg of food (mg/kg).
- ii) For substances for which no specific migration limit or other restrictions are provided in Annex I, a generic specific migration limit of 60 mg/kg shall apply.
- iii) By derogation from paragraphs 1 and 2, additives which are also authorized as food additives or as flavorings by codex standards, EU regulations shall not migrate into foods in quantities having a technical effect in the final foods and shall not:

- a. exceed the restrictions provided for in Annex I for foods for which their use is authorized as food additive or flavoring substances; or
- b. exceed the restrictions set out in Annex I in foods for which their use is not authorized as food additive or flavoring substances.

### **Overall Migration Limit (OML)**

Food Packaging/Contact Material shall not transfer their constituents to food simulants in quantities exceeding 10 milligrams of total constituents released per  $\text{dm}^2$  of food contact surface ( $\text{mg}/\text{dm}^2$ ). Food Packaging/Contact Material intended to be brought into contact with food intended for infants and young children, shall not transfer their constituents to food simulants in quantities exceeding 60 milligrams of total of constituents released per kg of food simulant.

### **12. Declaration of Compliance**

At the marketing stages other than at the point of sale to the final consumer, Food Packaging/Contact Material, whether or not they are in contact with food, or the components intended for the manufacturing of those materials and articles or the substances intended for the manufacturing of those components, shall be accompanied by a written declaration stating that they comply with the rules applicable to them. Appropriate documentation shall be available to demonstrate such compliance.

The written declaration shall permit an easy identification of the materials, articles or products from intermediate stages of manufacture or substances for which it is issued. It shall be renewed when substantial changes in the composition or production occur that bring about changes in the migration from the materials or articles or when new scientific data becomes available.

The written declaration shall be issued by the business operator (from intermediate stages of their manufacturing as well as for the substances intended for the Food Packaging/Contact Material intended to come into contact with food) and shall contain the information:

- a. The identity and address of the business operator which manufactures or imports the materials or articles or products from intermediate stages of their manufacturing or the substances intended for the manufacturing of those materials and articles;
- b. The identity of the materials, the articles, products from intermediate stages of manufacture or the substances intended for the manufacturing of those materials and articles;
- c. The date of the declaration;

- d. Confirmation that the materials or articles, products from intermediate stages of manufacture or the substances meet relevant requirements in standards and recognized relevant legislations;
- e. Adequate information relative to the substances used or products of degradation thereof;
- f. Adequate information relative to the substances which are subject to a restriction in food, obtained by experimental data or theoretical calculation about the level of their specific migration and, where appropriate, purity criteria in accordance with the relevant requirements laid down in standards and other recognized relevant legislations to enable the user of these materials or articles to comply with the relevant provisions.
- g. Specifications on the use of the material or article, such as:
  - i. type or types of food with which it is intended to be put in contact;
  - ii. time and temperature of treatment and storage in contact with the food;
  - iii. ratio of food contact surface area to volume used to establish the compliance of the material or article;
- h. When a functional barrier is used in a multi-layer material or article, the confirmation that the material or article complies with the requirements of the country of origin or to those which referred in this document.

### **1.3. Penal Actions**

Any business operator who manufactures, processes, stores or offer sale food packaging/contact material in contravention of these regulations, shall be punished unger the Act.

**DIRECTOR GENERAL**  
PUNJAB FOOD AUTHORITY"

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**DR SYED ABUL HASSAN NAJMEE**  
Secretary  
Government of the Punjab  
Law and Parliamentary Affairs Department