

# PUNJAB PURE FOOD REGULATIONS, 2018

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**NOTIFICATION**

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

**“Punjab Pure Food Regulations, 2018”**

**PART-I**

**1. Short Title, Commencement, Extent and Repeal:**

- (i) These regulations may be called as *Punjab Pure Food Regulations, 2018*.
- (ii) These regulations shall come into force at once.
- (iii) These regulations shall extend to whole of the Punjab.
- (iv) The Punjab Pure Food Regulations, 2017 is hereby repealed.

**2. Definitions:**

(1) In these regulations:

- (a) **“Advertisement”**: includes any notice, circular, label, wrapper, invoice or any other written document, and any public announcement made orally or by means of producing or transmitting visuals and/ or sounds; and the expression “advertise” shall be construed accordingly;
- (b) **“And/or”**: means “and” where possible, otherwise it shall mean “or”;
- (c) **“Appliance”**: includes the whole or any part of any utensil, machinery, instrument, apparatus, or article used or intended to be used, in or for making, preparing, keeping, selling or supplying any food;
- (d) **“Approved”**: means as approved by the Authority;
- (e) **“Bakery”**: means any place wherein is carried the production or preparation, packing, storing, display or sale of cream, biscuits, cakes, or other bakery products or confectionery;
- (f) **“Bottling factory”**: means any place in which aerated water, soda water, mineral or spring water, syrup or other beverage or any other food article is or are bottled by way of trade or for sale;
- (g) **“Claim”**: means any representation which states, suggests or implies that a food has particular qualities relating to its origin, nutritional properties, nature, processing, composition or any other quality;
- (h) **“Commercial operation”**: in relation to any food or contact material, means any of the following:

- (i) Production and preparation;
  - (ii) Selling, possessing for sale and offering, exposing or advertising for sale;
  - (iii) Consigning, delivering or serving by way of sale;
  - (iv) Preparation for sale or presenting, labeling or wrapping for purposes of sale;
  - (v) Storing or transporting for purposes of sale;
  - (vi) Importing and exporting.
- (i) **“Contact material”**: means anything, article or substance which is intended to come into contact with food;
- (j) **“Container”**: means any packaging of food for delivery as a single item, whether by completely or partially enclosing the food and includes wrappers; a container may enclose several units or types of packages if offered to the consumer as such;
- (k) **“Contravention”**: in relation to any provision, includes any failure to comply with the provision;
- (l) **“Covering”**: includes any stopper, glass bottle, vessel, box, capsule, case, frame or wrapper;
- (m) **“Dairy”**: includes any farm, shed, milking-house, milk store, milk-shop, creamery or other premises from where from milk is supplied for sale, or wherein milk is kept or used for purposes of sale or used to manufacture cream, butter, cheese, desi ghee, dried milk or condensed milk or other milk products for sale, or in which vessels used for the sale of milk are kept;
- (n) **“Food Authority”**: means Punjab Food Authority, responsible to carry out, within its jurisdiction, the execution and enforcement of the Punjab Food Authority Act, 2011 and these regulations;
- (o) **“Food business”**: means any business in the course of which commercial operations with respect to food or food sources are carried out;
- (p) **“Food premises”**: means any premises used for the purpose of a food business;
- (q) **“Food source”**: means any growing crop or live animal, bird or fish from which food is intended to be derived whether by harvesting, slaughtering, milking, collecting eggs or otherwise;
- (r) **“Food Testing Laboratory”**: means any place where the food is to be checked in accordance with the standards set forth by the Punjab Food Authority; it is a place established by Punjab Food Authority, notified, accredited or any laboratory handed over by the government or any other private laboratory nominated/outsourced by the Punjab Food Authority for the purpose of analysis.
- (s) **“Form”**: means a form appended to these regulations;
- (t) **“Fresh”**: means that the food is unprocessed, in its raw state and has not been frozen or subjected to any form of processing including thermal or any other form of preservation;
- (u) **“Government”**: means Government of the Punjab;

(v) **“Homogenized milk”**: means milk which has been treated in such manner as to ensure breakup of the fat globules contained therein to such an extent that after forty-eight hours of quiescent storage, no visible cream separation occurs in the milk;

(w) **“Human consumption”**: includes usages in the preparation of food for humans;

(x) **“Importer”**: means any person who has imported any food from outside the jurisdiction of a local authority, or Pakistan by land, sea or air and includes any person who, whether as owner, consignor or consignee, agent or broker, is in possession of or in any way entitled to the custody or control of any food; and the expression “import” shall be construed accordingly;

(y) **“Infant”**: means a person who is not more than twelve months of age;

(z) **“Ingredient”**: means any substance, including a food additive, used in the manufacture or preparation of a food and present in the finished product although possibly in a modified form;

(aa) **“Label”**: means a display of written, printed or graphic matter on the immediate container of any article and on the retail package of such article, unless it is easily legible through the outside container or wrapper;

(ab) **“Labeling”**: means all labels and other written, printed or graphic matter upon an article or any of its containers, wrappers, or accompanying such articles;

(ac) **“Lot”**: means a definitive quantity of a commodity produced essentially under the same conditions;

(ad) **“Milk seller”**: means any person who offers for sale or sells to another any milk or milk products for human consumption;

(ae) **“Owner”**: includes consignor, consignee, indenter, importer, agent, broker, commission agent, manufacturer or seller's agent and any other person in possession of the food;

(af) **“Person”**: means any individual, partnership, corporation, company, firm, trustee, or association by whatever name called;

(ag) **“Premises”**: includes any place, vehicle, stall or immovable/movable structure used for such purposes as may be specified by a notification issued by the Government;

(ah) **“Preparation”**: in relation to food, includes manufacturing and any form of processing or treatment, “preparation for sale” includes packaging, and the expression “prepare for sale” shall be construed accordingly;

(ai) **“Presentation”**: in relation to food, includes the shape, appearance and packaging of the food, the way in which the food is arranged when it is exposed for sale and the setting in which the food is displayed with a view to selling, but does not include any form of labeling or advertising and the expression “present” shall be construed accordingly;

(aj) **“Processed”**: in relation to any food, means having undergone any treatment resulting in a substantial change in the original state of the food, and shall include dividing, parting, severing, boning, mincing, skinning, paring, peeling, grinding, cutting, cleaning, trimming, deep-freezing, freezing, chilling, milling, husking, packing or unpacking and the expression “unprocessed” shall be construed accordingly;

(ak) **“Processing aid”**: means any substance not consumed as a food by itself, intentionally used in the processing of raw materials, foods or their ingredients to fulfill a certain technological purpose during treatment processing and which may result in the unintentional but technically unavoidable presence of residues of the substance or its derivatives in the final product, provided that these residues do not present any health risk and do not have any technological effect on the finished product;

(al) **“Proprietor”**: includes the owner, occupier and any other person having the management or control of any eating house, hotel or restaurant;

(am) **“Refrigerating factory”**: means an establishment employing refrigerating machinery or ice for purposes of refrigeration, or a place otherwise artificially cooled where articles of food are stored below a temperature of 45 degrees Fahrenheit and includes a cold storage;

(an) **“Section”**: means a section of the Punjab Food Authority Act, 2011;

(ao) **“Strictly Prohibited substances”**: includes any substance, such as a raw material/ingredients, drug, food additive, processing aid etc, that is banned or forbidden by these regulations or otherwise by the Punjab Food Authority

(ap) **“Substance”**: includes any natural or artificial substance or other matter, whether in solid or liquid form or in the form of a gas or vapor;

(aq) **“Treatment”**: in relation to any food includes subjecting it to heat or cold;

(ar) **“Toddler”**: means children aged between one and five years;

(2) In these regulations, the symbols specified in the first column of the following table shall have the meanings specified in relation to those symbols in the second column of the table:

**Table**

<b>Symbol</b>	<b>Meaning</b>
°C	Degrees in Celsius scale of temperature
Cm	Centimeters
g or gm	Grams
IU	International units
Kcal	Kilocalories
Kg	Kilograms
kJ	Kilojoules
mcg or µg	Micrograms
Mg	Milligrams
mL	Milliliters
Mm	Millimeters
Ppm	Parts per million
%	Percent
m/m	Mass by mass
Dm	decimeter

w/v	Weight by volume
w/w	Weight by weight
v/v	Volume by volume

### 3. Warranty

(1) Every trader selling an article of food to a vendor shall, if the vendor so requires, deliver to the vendor a warranty in Form 4.

(2) No warranty shall be necessary if the label on the article of food or the cash receipt of that article contains a warranty certificate that the food contained in the package or container or mentioned in the cash-memo is the same in nature, substance or quality as demanded by the vendor.

## PART-II

### 4. Food Additive

(1) "Food Additive" means any safe substance that is intentionally introduced into food in small quantities for purposes of maintaining quality, texture, consistency, appearance, odor, taste, alkalinity, or acidity of the food, or to serve any other technological function in the manufacture, processing, preparation, treatment, packing, packaging, transport, or storage of the food and which results or may be reasonably expected to result, directly or indirectly, in the substance or any of its by-products becoming a component of, or otherwise affecting the characteristics of the food and includes any coloring substance, preservative, flavor, flavor enhancer, antioxidant and food conditioner, but does not include:

(a) Vitamins, minerals or other nutrients used solely for purposes of fortifying or enriching food or of restoring the constituents of food;

(b) Herbs or spices when used as seasoning hops;

(c) Salt;

(d) Yeast or yeast extracts;

(e) Total products of any hydrolysis or autolysis of food proteins;

(f) Starter cultures;

(g) Malt or malt extract;

(h) Any substance which is present in the food solely as a result of its addition to animal, bird or fish feeding stuffs or its use in a process or treatment carried out in crop husbandry, animal husbandry, veterinary medicine or storage, and includes any pesticide, fumigant, sprout depressant or veterinary medicine; and air or water.

(2) The addition to any article of food of any food additive in contravention of the following instructions shall be deemed to be a contravention within the meaning of Section 4:

(a) No person shall import, manufacture, advertise for sale or introduce into or on any food containing:

(i) Any food additive other than a permitted food additive; or

(ii) Any permitted food additive which does not comply with the standard prescribed in these regulations or otherwise so specified; and

(iii) No food shall contain any food additive other than those specified in these regulations unless it is specified by a notification issued by the government.

(iv) It is also mandatory for all additives to be Halal.

(b) Additives used as ingredients in pre-packed foods to perform certain functions shall be declared in the labeling by the appropriate category name of the function along with their chemical names or European Community Number (EC No.) or Codex International Numbering System, the categories are:

Acid	Flour Treatment Agent
Acidity Regulator	Gelling Agent
Anti-Caking Agent	Glazing Agent
Anti-foaming Agent	Humectant
Antioxidant	Modified Starch
Bulking Agent	Preservative
Color	Propellant Gas
Emulsifier	Raising Agent
Emulsifying Salts	Stabilizer
Firming Agent	Sweetener
Flavoring Agent	Thickener
Flavor Enhancer	

(c) If an additive serves more than one function in food, the category name which represents its principal function must be used to describe it; but, where no category name is available for the function performed by an additive in a food, the additive must be declared in the list of ingredients by its specific name.

(d) No person shall sell a food additive unless the label on the package carries:

(i) The common name or designation and chemical name;

(ii) The European Community Number (EC No.) or Codex International Numbering System;

(iii) The lot number of food additive.

(3) For purposes of the standards specified in Appendix, the “carry over” principle applies to the presence of food additives such as colours, flavoring agents, antioxidants, anti-caking agents, emulsifying and stabilizing agents, and preservatives in food, as a result of the use of raw material or other ingredients in which these additives were used, provided that the presence of contaminants is not covered for this purpose.

(4) The presence of an additive in food through the application of the carry over principle is admissible in general unless otherwise specifically prohibited in these regulations, provided the total additive including the carry over through the raw material or other ingredients and it does not exceed the maximum amount so permitted.

#### 4.1 Coloring matter in food.

Carmine (E-120), Shellac (E-904) and other colors mentioned in the prohibited substances table of these regulations are strictly banned for any usage in food manufacturing, processing and in any ingredients thereof.

(a) All the permitted food colours shall only be allowed, subject to the fulfillment of Halal requirements.

(b) No synthetic color or mixture thereof, except the colors mentioned in the table given in sub-rule (3) and as per Codex CAC. MISC-6-2010 and EU approved synthetic color, shall be used in the preparation of any food.

(c) The extraneous coloring matter added to any article of food manufactured in Pakistan, shall be indicated on the label attached to the package of any such food in capital letters as (contains permitted food colors\* \_\_\_\_\_): (the blank shall be filled with the name of color index of the color used).

A list of permitted synthetic colors is given in the table below:

Color Index No	Color Index Name	Common Name	Chemical Name	EEC No.
(a) 73015	Food Blue 1	Indigo Carmine	Indigoid	E132
(b) 42090	Food Blue 2	Brilliant Blue FCF	Triarylmethane	E133
(c) 42053	Food Green 3	AF Green No.3	Triarylmethane	E143
(d) 15985	Food Yellow 3	Sunset yellow FCF	Monoazo	E110
(e) 19140	Food Yellow 4	Tartrazine	Monoazo	E102
(f) 14720	Food Red 3	Carmoisine	Monoazo	E122
(g) 16255	Food Red 7	Ponceau 4R	Monoazo	E124
(h) 45430	Food Red 14	Erythrosine BS	Xanthene	E127

#### Indigo Carmine:

Common Name	Indigo Carmine
Synonyms	Indigo tine, FD&C blue No.2 , CI food blue 1, EEC Serial No. E 132, I-blue2
Color of the 0.1 percent (m/v) solution in distilled water	Blue
Color index number (1975)	No. 73015
Class	Indigoid
Chemical name	Disodium salt of indigotine-5-disulphonic acid.
Empirical formula	$C_{16}H_8N_2O_8S_2Na_2$
Molecular Weight	466.36



Solubility	Soluble in water Sparingly soluble in ethanol
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#### Requirements for Indigo Carmine

Sr No	Characteristic	Requirement
1	Total dye content, corrected for sample dried at 105 ±1 °c for 2 hours.	Min.85% by mass
2	Loss on drying at 135°C, percent by mass and chlorides and sulphates expressed as sodium salt,	Max. 15% by mass
Ss	Water insoluble matter	Max. 0.4% by mass
4	Combined ether extracts	Max 0.4% by mass
5	Subsidiary dyes	Max 3.0% by mass
6	Isatin sulphonic acid	Max.01% by mass
7	Lead	Max.10mg/kg
8	Arsenic	Max.03mg/kg
9	Total Heavy metals*	Max. 40mg/kg

**Note:** It shall be free from Mercury, Copper and Chromium in any form, aromatic amines, aromatic nitro compound, aromatic hydrocarbons and cyanides.

#### Brilliant Blue FCF

Common Name	Brilliant Blue FCF
Synonyms	CI Food Blue, FD&C Blue No.1 Blue Brilliant FCF
	EEC Serial No. E 133
Color of the 0.1 percent (m/v) solution in distilled water	Blue
Colour index number (1975)	No. 42090
Class	Triaryl-methane

Chemical name	Disodium salt of (4-(n-ethyl-β- sulfobenzyl-amino)- phenyl) -(4-(n-ethyl 1-3- sulfonatobenzylimino) cyclohexa-2, 5-dienylidene) toluene-2-sulfonate
Empirical formula	C <sub>37</sub> H <sub>34</sub> N <sub>2</sub> Na <sub>2</sub> O <sub>9</sub> S <sub>3</sub>
Molecular Weight	792.86

### General Requirements:

The material shall conform to the requirements prescribed in table below:

### Requirements for Brilliant Blue FCF

Sr No	Characteristic	Requirement
1	Total dye content, corrected for sample dried at 105 ±1 °C for 2 hours,	Min.85 % by mass
2	Loss on drying at 135 <sup>0</sup> C, percent by mass and chlorides and sulphates expressed as sodium salt.	Max.15% by mass
3	Water insoluble matter,	Max.0.2% by mass
4	Combined ether extracts,	Max.0.2 by mass
5	Subsidiary dyes,	Max 3.0
6	Dye intermediates, (a) O, sulpho-benzaldehyde, (b) n-n, ethyl-benzyl-aniline-3-sulphonic acid, (c) Leuco base,	Max. 1.5% by mass Max.0.3 % by mass Max. 5 % by mass
7	Chromium, mg/kg,	Max. 50
8	Lead, mg/kg,	Max. 10
9	Arsenic, mg/kg,	Max. 3
10	Total Heavy Metals, mg/kg*	Max. 40

**Note:** It shall be free from Mercury, Copper and aromatic amines, aromatic nitro compound, aromatic hydrocarbons, and cyanides.

### AF Green No.3

Common Name	AF Green
Synonyms	CI Food Green 3, FD&C Green No.3, Vert Solids FCF
	EEC Serial No. E 143

Color of the 0.1 percent (m/v) solution in distilled water.	Green
Colour index number (1975)	No. 42053
Class	Triaryl-methane
Chemical name	Disodium salt of 4-(4-(n-ethyl-p- sulfobenzyl-amino)-phenyl- (4-hydroxy-2-sulphonumphenyl)- methylene)-nethyl- n-p- sulphobenzyl 2,5cyclohexadienimine)
Empirical formula	C <sub>37</sub> H <sub>34</sub> O <sub>10</sub> N <sub>2</sub> S <sub>2</sub> Na <sub>2</sub>
Molecular Weight	808.86

### General Requirements

The material shall conform to the requirements prescribed in table below:-

#### Requirements for AF Green

Sr No	Characteristic	Requirement
1	Total dye content, corrected for sample dried at 105 ±1°C for 2 hours,	Min.85% by mass
2	Loss on drying at 135°C, percent by mass and chlorides and sulphates expressed as sodium salt,	Max.15% by mas
3	Water insoluble matter,	Max.0.2% by mass
4	Combined ether extracts,	Max.0.4% by mass
5	Subsidiary dyes,	Max.1.0% by mass
6	Organic compound other than colouring matter uncombined intermediates and product of side reactions.	
	(a) Sum of 2, 3, 4, formyl benzene sulphonic acid, sodium salts.	Max.0.5% by mass
	(b) Sum of 3- and 4-(ethyl (4(4-sulfophenyl) amino) methyl benzene sulphonic acid, disodium salts.	Max.0.3% by mass
	(c) 2-Formyl-5-hydroxybenzene sulphonic acid sodium salt.	Max.0.5% by mass
	(d) Leuco base.	Max.5.0% by mass
	(e) Unsulphonated primary aromatic amines (calculated as aniline).	Max.0.01% by mass
7	Lead.	Max.10 mg/kg
8	Arsenic.	Max.3 mg/kg
9	Chromium.	Max.30 mg/kg
10	Mercury.	absent
11	Total Heavy Metals*	Max. 40mg/kg

**Note:** It shall be free from aromatic nitro compounds, aromatic hydrocarbons and cyanides.

### Sunset Yellow FCF

Common Name	Sunset Yellow
Synonyms	FD&C Yellow No. 6 Jaune Orange SCI Food Yellow 3/ Orange 2 janune
	Soil. / EEC Serial No. E 110
Color of the 0.1 percent (m/v) solution in distilled water	Orange
Colour index number (1975)	No. 15985
Class	Monoazo
Chemical name	Disodium salt of 2-hydroxy1-(4 sulphonato phenylazo) 2-naphthol-6-Sulphonic Acid
Empirical formula	$C_{16}H_{10}N_2O_7S_2Na_2$
Molecular Weight	452.37
Solubility	Soluble in water Sparingly soluble in ethanol

### General Requirements:

The material shall conform to the requirements prescribed in table below:

Sr. No	Characteristic	Requirement
1	Total dye content, corrected for sample dried at $105 \pm 1^\circ\text{C}$ for 2 hours, percent by mass	Min.87% by mass
2	Loss on drying at $135^\circ\text{C}$ , percent by mass and chlorides and sulphates expressed as sodium salt, percent by mass	Max.13% by mass
3	Water insoluble matter, percent by mass	Max.0.2% by mass
4	Combined ether extracts, percent by mass	Max.0.2% by mass
5	Subsidiary dyes (lower sulphonated dyes including traces of orange percent by mass	Max.3.0% by mass
6	Dye intermediates, percent by mass	Max.0.5% by mass
7	Lead	Max.10 mg/kg
8	Arsenic	Max.3 mg/kg
9	Total Heavy Metals*	Max. 40mg/kg

**Note:** It shall be free from Mercury, Copper and Chromium in any form, aromatic amines, aromatic nitro compound, aromatic hydrocarbons, and cyanides.

**Tartrazine**

Common Name	Tartrazine
Synonyms	FD&C Yellow No. 5
	EEC Serial No. E 102
	L - Gebb2, CI Food Yellow 4
Color of the 0.1 percent (m/v) solution in distilled water.	Yellow
Colour index number (1975)	No. 19140
Chemical name	Trisodium salt of 5-hydroxy-1-4-sulphonatophenyl-4(4-sulphonatophenylazo)pyrazol-3-carboxylic acid
Empirical formula	$C_{16}H_9N_4O_9S_2Na_3$
Molecular Weight	534.37
Solubility	Soluble in water Sparingly soluble in ethanol

**General Requirements:**

The material shall conform to the requirements prescribed in table below:

**Requirements for Tartrazine**

Sr. No	Characteristic	Requirement
1	Total dye content, corrected for sample dried at $105 \pm 1^\circ\text{C}$ for 2 hours.	Min.87% by mass
2	Loss on drying at $135^\circ\text{C}$ , percent by mass and chlorides and sulphates expressed as sodium salt.	Max.13% by mass
3	Water insoluble matter.	Max.0.2% by mass
4	Combined ether extracts.	Max.0.2% by mass
5	Subsidiary dyes (lower sulphonated dyes including traces of orange.	Max.3.0% by mass
6	Dye intermediates.	Max.0.5% by mass
7	Lead.	Max.10 mg/kg
8	Arsenic.	Max.3 mg/kg
9	Total Heavy Metals*	Max. 40mg/kg

**Note:** It shall be free from Mercury, Copper and Chromium in any form, aromatic amines, aromatic nitro compound, aromatic hydrocarbons, and cyanides.

### Carmoisine

Common Name	Carmoisine
Synonyms	Azorubine, CI Food Red 3
	EEC Serial No. E 122
Color of the 0.1 percent (m/v) solution in distilled water.	Red
Colour index number (1975)	No. 14720
Class	Monoazo
Chemical name	Disodium salt of 4-hydroxy-3-(4-sulfo-1-naphthylazo) 2 (4 – sulnaphthalene-1-sulphonate-1-naphthylazo)-1-hydroxynaphthalene-4-sulphonic acid
Empirical formula	C <sub>20</sub> H <sub>12</sub> N <sub>2</sub> O <sub>7</sub> S <sub>2</sub> Na <sub>2</sub>
Molecular Weight	502.44

### General Requirements:-

The material shall conform to the requirements prescribed in table below:

### Requirements for Sunset Yellow, FCF

Sr. No	Characteristic	Requirement
1	Total dye content, corrected for sample dried at 105 ±1°C for 2 hours.	Min.87% by mass
2	Loss on drying at 135°C, percent by mass and chlorides and sulphates expressed as sodium salt.	Max.13% by mass
3	Water insoluble matter.	Max.0.2% by mass
4	Combined ether extracts.	Max.0.2% by mass
5	Subsidiary dyes (lower sulphonated dyes including traces of orange.	Max.3.0% by mass
6	Dye intermediates.	Max.0.5% by mass
7	Lead.	Max.10 mg/kg
8	Arsenic.	Max.3 mg/kg
9	Total Heavy Metals*	Max. 40mg/kg

**Note:** It shall be free from Mercury, Copper and Chromium in any form, aromatic amines, aromatic nitro compound, aromatic hydrocarbons, and cyanides.

#### Ponceau 4R

Common Name	Ponceau 4R
Synonyms	C1 Food Red 7, L-Rot No. 4, Coccine Nouvelle, Cochineal Red A; EEC Serial No. E 124
Color of the 0.1 percent (m/v) solution in distilled water.	Red
Colour index number (1975)	No. 16255
Class	Monoazo
Chemical name	Tisodium -2-hydroxy - 1- (4- sulfonato-1-naphthylazo) naphthalene-6,8-disulfonate salt of 1-(4-sulpho-1-naphenyl-azo)-naphthol-6,8-sulphonic acid
Empirical formula	$C_{20}H_{11}N_2O_{10}S_3Na_3$
Molecular Weight	604.5
Solubility	Soluble in water Sparingly soluble in ethanol

#### General Requirements:

The material shall conform to the requirements prescribed in table below:-

#### Requirements for Ponceau 4R

Sr. No	Characteristic	Requirement
1	Total dye content, corrected for sample dried at $105 \pm 1^\circ\text{C}$ for 2 hours.	Min.82% by mass
2	Loss on drying at $135^\circ\text{C}$ , percent by mass and chlorides and sulphates expressed as sodium salt.	Max.18% by mass
3	Water insoluble matter.	Max.0.4% by mass
4	Combined ether extracts.	Max.0.4% by mass
5	Subsidiary dyes (lower sulphonated dyes including traces of orange.	Max.3.0% by mass
6	Dye intermediates.	Max.0.5% by mass
7	Lead.	Max.10 mg/kg
8	Arsenic.	Max.3 mg/kg
9	Total Heavy Metals*	Max. 40mg/kg

**Note:** It shall be free from Mercury, Copper and Chromium in any form, aromatic amines, aromatic nitro compound, aromatic hydrocarbons and cyanides.

**Erythrosine BS**

Common Name	Erythrosine
Synonyms	FD & C Red No.3 CI Food Red 14 LB- Rot 1
	EEC Serial No. E 127
Color of the 0.1 percent (m/v) solution in distilled water	Red
Colour index number (1975)	No. 45430
Class	Xanthene
Chemical name	Disodium or dipotassium salt of 2,4,5,7, tetraiodo- fluorescein
Empirical formula	$C_{20}H_6O_5I_4Na_2$
Molecular Weight	879.87 (Disodium salt)
Solubility	Soluble in water Sparingly soluble in ethanol

**General Requirements:**

The material shall conform to the requirements prescribed in table below:

**Requirements for Erythrosine**

Sr. No	Characteristic	Requirement
1	Total dye content, corrected for sample dried at $105 \pm 1^\circ\text{C}$ for 2 hours, percent by mass	Min.87% by mass
2	Loss on drying at $135^\circ\text{C}$ , and chlorides and sulphates expressed as sodium salt, percent by mass	Max.13% by mass
3	Water insoluble matter, percent by mass.	Max.0.2% by mass
4	Ether insoluble matter, (alkaline), percent by mass	Max.0.2% by mass
5	Inorganic iodide, percent by mass as sodium iodide	Max.1% by mass
6	Subsidiary colouring matters except flourescein by mass	Max.4mg/kg
7	Fluorescein	Max.20mg/kg
8	Organic compounds other than colouring matter: (a) Tri-iodoresorcinol, percent by mass (b) 2. (2,4-dihydroxy-3, 5-di-iodobenzoyl) benzoic acid, percent by mass	Max.0.2% by mass
		Max.0.2% by mass
9	Lead	Max.10mg/kg
10	Arsenic	Max.3mg/kg
11	Zinc	Max.50mg/kg
12	Total Heavy Metals*	Max. 40mg/kg

**Note:** It shall be free from Mercury, Copper and Chromium in any form, aromatic amines, aromatic nitro compound, aromatic hydrocarbons and cyanides.



*(\*):- Except where in this regulation a specific requirement is mentioned, the same shall supersede.*

#### **4.1.1 Natural Colouring Matters Permitted.**

Natural Colour used in food shall be pure, free from extraneous matter and adulterants. The following natural colouring matters and other natural permitted colours as per Codex subject to the Halal status may be used in or upon any article of food:

Annatto  
Chlorophyll  
Curcumin or turmeric  
Caramel  
Beta carotenes  
Beta-apo-8, carotenal  
Methylester of beta apo-8, carotenic acid  
Ethylester of beta-apo-8, carotenic acid  
Canthaxanthin  
Saffron  
Riboflavin (lactoflavin)

#### **4.1.2 Inorganic Colours and Pigments Prohibited**

Inorganic Colouring matters or pigments shall not be added to any article of food.

#### **4.1.3 Artificial and Synthetic Colouring Matter Prohibited In Raw Food**

The use of artificial or synthetic colouring matter in raw food stuffs which are consumed after cooking in the usual way is prohibited;

#### **4.1.4 Labelling of Colours**

No person shall sell a synthetic colour or a mixture of synthetic colour unless the label on the package carries:

- (i) The common and the colour index name(s) of the synthetic colour (s).
- (ii) The lot number of synthetic colour.
- (iii) The words "food colour".

#### **4.1.5 Use of Permitted Synthetic Colours Restricted**

The use of permitted synthetic dyes in or upon any food other than those shown below is prohibited:

- (i) Ice cream, Frozen deserts and Milk Ice
- (ii) Dairy products except milk, dahi, butter, ghee, cheese, yogurt, condensed milk, cream, skimmed milk, toned milk recombined/ reconstituted milk,
- (iii) Smoked fish
- (iv) Biscuit, pastry, confectionery, savouries, wafer and similar products and sweets.

(v) Peas, strawberries and cherries in hermetically sealed containers, preserved or processed papaya, canned tomato juice, fruit syrup, fruit squash, fruit cordial, jellies, jam, marmalade, candied crystallized or glazed fruits, fruit drink, flavoured drinks.

(vi) Non-alcoholic beverages (carbonated water) except tea, cocoa, coffee, malted foods.

(vii) Custard powder.

(viii) Jelly crystals.

(ix) Soup powder.

(x) Luncheon meat.

(xi) Flavouring agents.

(xii) Ice lolly, Ice candy and Ice confection.

(xiii) Sweetened ice, thread candies and similar products.

#### **4.1.6 Maximum Limit of Colour**

The maximum limit of any permitted food colour (synthetic or natural) shall be according to Codex Standard for Food Additives 192-1995.

#### **4.1.7 Colour Mixture**

A mixture of two or more permitted, synthetic food color conforming to the prescribed standard without diluents and filler material and meant to be used for imparting color to food. It may contain permitted preservatives and stabilizers.

(1) No person shall sell a mixture of permissible food colour for use in or upon any food unless the container carries a label stating the following:

(a) The word “food colour mixture” in capital words in a prominent position;

(b) The common name, the colour index name, and chemical name of the synthetic colours used in the mixture; and

(c) The ingredients shall be specified in descending order of the proportions by weight.

#### **4.1.8 Colour Preparation**

(1) A preparation containing one or more of the permitted synthetic food colours conforming to the prescribed standards along with diluents and/or filler material and meant to be used for imparting colours to food, may contain preservatives and stabilizers permitted for that purpose. The colour preparation would be either in the form of liquid or powder. The powder preparation shall be reasonably free from lumps and any visible extraneous/foreign matter. Liquid preparation shall be free from sediments. Only the following diluents or filler material shall be permitted to be used in colour preparation conforming to the prescribed standards:

a) Potable water;

b) Edible common salt;

- c) Sugar;
- d) Dextrose monohydrate;
- e) Liquid glucose;
- f) Sodium sulphate;
- g) Tartaric acid;
- h) Glycerin (Halal);
- i) Propylene glycol;
- j) Acetic acid, dilute;
- k) Sorbitol food grade;
- l) Citric acid;
- m) Sodium carbonate and Sodium hydrogen carbonate;
- n) Lactose;
- o) Ammonium, sodium and Potassium alginates;
- p) Dextrins;
- q) Ethyl acetate;
- r) Starches;
- s) Diethyl ether;
- t) Ethanol;
- u) Glycerol mono, di and triacetate;
- v) Edible oils and fats;
- w) Isopropyl alcohol;
- x) Bees wax;
- y) Sodium and Ammonium hydroxide;
- z) Lactic acid;
- za) Carrageenan and Gum Arabic;
- zb) Gelatin (Halal);
- zc) Pectin.

(k) No person shall sell a preparation of permitted colours for use in or upon food unless its container carries a label stating the following particulars:

(i) The word “food colours preparation” in capital words in a prominent position, two times larger in size than other words (sentence) used on the container;

(ii) The name of all ingredients used in the preparation; and

(iii) the name of the filler shall be in a prominent position equal in size to the words “food colours preparation” and shall be marked by a line all around as boundary line and no other matter shall be printed within such line.

## 4.2 Preservatives

(1) Preservatives in food means any substance which is capable of inhibiting, retarding or arresting the process of fermentation, acidification or other decomposition of food or of masking any of the evidences of putrefaction but it does not include common salt, saltpetre, sugars, acetic acid, glycerin (Halal), alcohol, herbs, hop extract, spices and essential oils used for flavoring purposes or any substance added to food by the process of curing known as smoking. Lactic Acid shall be allowed to be used as permitted preservative in regulation sub-rule.

(2) The addition to any article of food of any preservative in contravention of the following instructions shall be deemed to be a contravention within the meaning of section 4:

(a) No preservatives other than those shown below and preservatives permitted by Codex (Codex Standards: 192-195) shall be used in or upon any food;

(b) No person shall use in or upon a food more than one preservative provided that where in column (2) of the table given below, the use of more than one preservative may be used in combination with one or more alternatives, subject to the condition that the quantity of each preservative so used does not exceed such number of parts as are specified on the basis of the proportion in which such preservatives are combined.

### Illustration

In the group of foods specified in item 6 of table given in sub rule (c), Sulphur dioxide or benzoic acid can be added in the proportion of 40 parts per million and 200 parts per million respectively. If both preservatives are used in combination and the proportion of sulphur dioxide is 20<sup>th</sup> part per million, the proportion of benzoic acid shall not exceed the proportion of 100<sup>th</sup> parts per million.

(c) the use of preservative shall be restricted to the group of foods specified in the first column of the following table and may contain the preservative specified in the second column in proportion not exceeding the number of parts (estimated by weight) per million specified in the third column:

Sr. No	Article of food	Preservative	Part per million
--------	-----------------	--------------	------------------

1	Sausages and sausage meat containing raw meat, cereals and condiments	Sulphur dioxide	450
2	Fruit, fruit pulp or juice (not-dried) for conversion into jam or crystallized glaze or cured fruit or other products a) Cherries b) Strawberries and raspberries c) Other fruits		
		Sulphur dioxide	2000
		-do-	2000
		-do-	1000
3	Fruit juice concentrate	-do-	
4	Dried fruits	-do-	
	(a) Apricots, peaches, apples, Pears and other fruits. b) Raisins and sultanas	-do-	2000
		-do-	750
5	Other non-alcoholic wines, cordials, squashes, crushes, fruit syrups, fruits juices and barley water (to be used after dilution.)	Sulphur dioxide or	350
		Benzoic acid	600
6	Jam, marmalade, preserves, canned cherry and fruit jelly.	Sulphur dioxide or Benzoic acid	40 1000
7	Crystallised grace or cured fruit (including candied peel)	Sulphur dioxide	150
8	Fruit and fruit pulp not otherwise Specified in this schedule	Sulphur dioxide	350
9	Plantation white sugar, cube sugar, dextrose, gur, jaggery, mesri. a) Desi khand (sulphur) and bura (b) Refined sugar	Sulphur dioxide	
		-do-	150
		-do-	40
10	Corn flour and such like starches	-do-	100
11	Corn syrup a) Canned rassogolla 100 (the cans shall be internally Lacquered with sulphur dioxide resistant lacquer)	-do-	450
		-do-	100
12	Gelatine (Halal)	-do-	1000
13	Beer	-do-	70
14	Cider	-do-	70
15	Alcoholic wines	-do-	450
16	Ready to serve beverages.	Sulphur dioxide	70
17	Brewed ginger beer	Benzoic acid	120
18	Coffee extract	-do-	450
19	Pickles and chutney made from fruits or vegetables.	Sulphur dioxide	100
		Benzoic acid	1000
		Sorbates	1000
20	Tomato and other sauces	Benzoic acid	750
21	Pickled meat and bacon a) Corned beef b) Luncheon meat, cooked ham,	Sodium nitrite and / or potassium nitrite expressed as sodium nitrite	200
		-do-	100
		Sodium And / or	200

	chopped meat, canned meat and goat meat and canned chicken	Potassium Nitrite expressed as sodium nitrite	
22	Danish tinned caviar	Benzoic acid	50
23	Dehydrated vegetables	Sulphur dioxide	2000
24	Tomato puree and paste	Benzoic acid	1000
25	Syrup and sherbets	Sulphur dioxide	350
		Benzoic acid	1000
26	Dried ginger	Sulphur dioxide	2000
27	Hard boiled sugar confectionery	Sulphur dioxide	350
28	Cheese or processed cheese	Sorbic acid including its sodium, potassium & calcium salts (calculated as Sorbic acid)	3000
		Nisin	12.5
29	Flour confectionery Filled chocolate	Sorbic acid including sodium, potassium and calcium salts (calculated as sorbic acid)	1500
30	Smoked fish ( in wrappers)	Sorbic acid	Only wrappers may be impregnated with sorbic acid
31	Dry mixes of rasgollas	Sulphur dioxide	100
32	a) Soups other than canned	-do-	100
	b) Dried soups	-do-	1500
	c) Dehydrated soup mix when packed in containers other than cans	-do-	1500
33	Fruits and vegetables flakes, powder, figs	-do-	600
34	Flour for baked food	Sodium diacetate	2500
		Or propionate or	3200
		Methyl / propyl hydroxy benzoate	500
35	Preserved chapaties	Sorbic acid	1500
36	Paneer or chhana	Sorbic acid and its sodium potassium or calcium salts (calculated as sorbic acid) or	2000
		Propionic acid & its sodium or potassium salts (calculated as propionic acid)	2000
37	Fat spread	Sorbic acid and its sodium potassium or calcium salts (calculated as sorbic acid) or	1000
		Benzoic acid and its sodium and potassium salts (calculated as benzoic acid or both)	1000

38	Jam, jellies, marmalades, preserves, crystallized, glazed or candied fruits, including candied peels, fruit bars.	Sorbic acid and its sodium potassium or calcium salts (calculated as sorbic acid)	1000
39	Fruit juices concentrates with preservatives for conversion in juices, nectars for ready to serve beverages in bottles, pouches, selling through dispenser	Sorbic acid and its calcium, sodium potassium salts (calculated as 39 sorbic acid)	100
40	Fruit juices ( tin, pouches or selling 500 through dispensers)	-do-	500
41	Nectars, ready-to-serve beverages in bottles, pouches or selling through dispensers.	-do-	50
42	Prunes	Potassium sorbate (calculated as Sorbic acid)	1000

- (i) Sulphur dioxide shall not be added to meat or to any food recognizable as a source of vitamin B, except as provided for in the sub-rule above;
- (ii) No food shall contain compounds of boron, Salicylic acid or Formaldehyde; and
- (iii) No food shall contain sorbic acid or its compounds in excess of 0.1 percent by weight.

(d) In a mixture of two or more foods mentioned against each item in the table, the use of preservative or preservatives shall be restricted to the limit up to which the use of such preservative or preservatives is permitted for the food or groups of food contained in such mixture.

### Illustration

In the food specified in the table given, sulphur dioxide can be added to dehydrated vegetables in the proportion of 2,000 part per million. If this is mixed with the food specified in the said table, that is to say tomato puree and paste, where Benzoic acid is permitted to an extent to 250 ppm, then in the mixture containing equal parts of these two foods, the proportion of sulphur dioxide and benzoic acid, shall be 1,000 part per million and 125 part per million respectively.

(e) The word “pure” shall not be used on the label of the container of any food which contains preservative.

(f) No preservative shall be sold for use in food unless the label carries:

- (i) The common name;
- (ii) The chemical name;
- (iii) The net weight;
- (iv) Adequate directions for use in accordance with the limits prescribed for such preservatives;
- (v) The name and address of the manufacturer; and

(Vi) All the preservatives must be accompanied with the Material Safety Data Sheet (MSDS).

(3) Any person appointed as a Food Safety Officer taking a sample of milk or milk products for analysis, may add a preservative to the sample for purposes of maintaining such sample in a condition suitable for such analysis.

(4) The preservative that shall be used for such purpose shall be the liquid commonly known as 'Formalin' that is to say, a liquid containing about 40 percent of formaldehyde in aqueous solution.

(5) The amount of such preservative that shall be added shall be approximately one drop of Formalin added from a dropping bottle to every 50mL of milk or milk products in the sample.

(6) The vessel, in which a sample of milk or milk products to which, Formalin has been added under this regulation is kept, shall have affixed to it a label that the sample has been artificially preserved.

### **4.3 Flavoring Compounds and Agents in Food**

(1) "Flavoring compounds and agents in food" means any substance that when added to food is capable of imparting flavour to that food and includes flavorings substances, flavour extracts or flavour preparations.

(2) The addition to any article of food of any flavouring agent in contravention of the following clauses shall be deemed to be a contravention within the meaning of section (4):

(a) No food shall contain flavoring agents, which are by themselves toxic or contain contaminant materials which are toxic.

(b) Flavoring agents may be of the following types.

#### **4.3.1 Natural Flavours and Natural Flavouring Substances**

"Natural flavours" and "natural flavouring substances" are flavour preparations and single substance respectively, acceptable for human consumption, obtained exclusively by physical processes from vegetable or fruit in their natural state.

#### **4.3.2 Nature-Identical Flavouring Substances**

"Nature-identical flavouring substances" are substances chemically isolated from aromatic raw material or obtained synthetically; they are chemically identical to substances present in natural products intended for human consumption, either processed or not.

#### **4.3.3 Artificial Flavoring Substances:**

"Artificial flavorings substances" are those substances which have not been identified in natural products intended for human consumption, either processed or not.

(a) Any food, manufactured in Pakistan which contains any natural flavouring agents, shall be labelled with the legend 'natural flavour' or contains natural flavouring.



(b) Any food, manufactured in Pakistan which contains any artificial flavouring agents or any nature identical flavouring agents, shall be labelled with the legend 'artificial flavour', 'Nature Identical' or 'imitation flavour'.

(c) "The use of the following flavouring agents in any article of food is prohibited (Reference and guidelines from Codex on all flavours)."

- (i) Coumarin and Dihydrocoumarin
- (ii) Tonka bean (Dipteryl odorate)
- (iii)  $\beta$ -asarone and Cinnamyl anthracilate
- (iv) Estragole
- (v) Ethyl methyl ketone
- (vi) Ethyl-3-phenyl glycidate
- (vii) Eugenyl methyl ether
- (viii) Methyl -naphthyl ketone
- (ix) P propylanisole
- (x) Safrole and Isosafrole
- (xi) Thujone and Isothujone & Thujone

(d) Diethylene glycol and Monoethylether shall not be used as solvent in flavours.

(3) "Flavour enhancer" means any substance which is capable of enhancing or improving the flavour of food, but does not include any sauce, gravy, gravy mix, soup mix, spice or condiment.

(4) No person shall import, sell, advertise, manufacture, consign or deliver any flavour enhancer for use in food intended for human consumption other than

- (i) Calcium or other salts of guanylic acid or inosinic acid or a combination there of (sodium salts of the said acids are prohibited).
- (ii) Yeast extract or dried inactive yeast or autolyzed yeast or a combination thereof;

(5) No person shall import, sell, advertise, manufacture, consign or deliver the flavour enhancer i.e. calcium and other (except sodium) salts of guanylic acid or Inosinic acid or a combination thereof unless it contain not less than 97 percent and not more than the equivalent of 102 percent of calcium or related salt of guanylic or inosinic acid calculated on a water-free basis, and derived solely from vegetable source.

(6) No person shall import, sell, advertise, manufacture, consign or deliver the flavour enhancer yeast extract or dried inactive yeast or autolyzed yeast or a combination thereof unless it contains not more than 0.04 mg per gram of total folic acid (approximately 0.008 milligram of pteroylglutamic acid per gram of yeast) and derived solely from *saccharomyces cerevisiae* or *saccharomyces fragilis* or *torula* yeast (*candida utilize*) or a combination thereof.

#### **4.4 Antioxidants in Food**

(1) "Antioxidants in food" means a substance which when added to food retards or prevents oxidative deterioration of food and does not include sugar, cereal oils, flours, herbs and spices.

(2) No anti-oxidant other than lecithin, ascorbic acid and tocopherol shall be added to any food unless otherwise provided in Appendix of these regulations: provided that the following anti-oxidants, not exceeding in concentration mentioned against each, may be added to edible oils and fats except desi ghee and butter.

1	Ethyl gallate	0.01 Percent
2	Propyl gallate	
3	Octyl gallate	
4	Dodecyl gallate	
5	Ascorbyl palmitate	0.02 Percent
6	Butylated hydroxyanisole (BHA)	0.02 Percent
7	Citric acid	0.01 Percent
8	Tartaric acid	
9	Galic acid	
10	Resin guaiac	0.05 Percent
11	Tertiary butyl hydro quinone (TBHQ)	0.02 Percent

Provided further that dry mixes of rasgollas and similar other items may contain Butylated hydroxyanisole (BHA) not exceeding 0.02 percent calculated on the basis of fat content; Provided further that the anti-oxidants permitted under these regulations may be used in permitted flavouring agents in concentration not exceeding 0.01 percent; Provided further that wherever Butylated Hydroxylanisole (BHA) is used in conjunction with the anti-oxidants mentioned at items nos.1 to 4 of the preceding proviso, the quantity of the mixture shall not exceed the limit of 0.02 percent;

Provided further that desi ghee and butter may contain Butylated Hydroxylanisole (BHA) to be used in conjunction which shall not exceed 0.02 percent;

Provided further that fat spread may contain Butylated Hydroxylanisole (BHA) or Tertiary-butyl-hydroquinone (TBHQ) in a concentration not exceeding 0.02 percent by weight on fat basis; Provided further that ready to eat dry breakfast cereals may contain butylated Hydroxylanisole (BHA) not exceeding 0.005 percent (50 ppm);

Provided further that ready to eat drink infant milk substitute, lecithin and Ascorbyl palmitate may be used up to a maximum limit 0.05gm/100 mL. And 1 mg/100ml respectively; Provided further that chewing gum/ bubble gum may contain Butylated Hydroxylanisole (BHA) not exceeding 250 ppm.

Vitamin D preparation may contain anti-oxidants prescribed in these regulations not exceeding 0.08 percent.

**Table 1**

Sr. No	Additives (Antioxidants)										
1	Snacks / sautiries (fried products):- chiwda, bhujia, daimoth, kadubale, kharaboondi, spiced & fried dals, bananas chips and similar fried products sold by any name										
2	Sucrose, carbohydrates based and products- halwa, mysor pak, boondi ladoo, jalebi, khoya burfi, peda, gulab janun, rasogolla, and similar product										
3	Instant mix, pul gulabjamoan mix, jalebi mixmix.										
4	Rice and pulses based papads										
5	Ready – to- serve beverages tea / coffee based										
6	Chewing gum/ bubble gum										
7	Sugar based / sugar free confectionery.										
8	Chocolates										
9	Synthetic syrup for dispensers										
10	Lozenges										

  

Antioxidant											
1	Tocopherol	GMP	GMP	-	-	-	-	-	-	-	-
2	Lecithin	GMP	-	-	-	-	-	-	-	-	-
3	Butylated hydroxyl- anisole (BHA)	200ppm Maximum	-	-	-	250ppm Max	-	-	-	-	-
4	Other antioxidants	As per codex guidelines				As per codex guidelines					

#### 4.5 Food conditioners or stabilizers in food

(1) Means any substance that is added to food for a technological purpose to obtain the desired food and includes emulsifiers, antifoaming agents, stabilizers, thickeners, modified starches, gelling agents, acidity regulators, enzymes, solvents and anti-caking agents, but does not include preservative, colouring substance, flavouring substance, flavour enhancer and antioxidants.

(2) The addition to any article of food of any food conditioner in contravention of the following clauses shall be deemed to be a contravention within the meaning of section 4.

(3) The substances specified in table I and in column (2) of table II given below shall be permitted food conditioners.

(4) Notwithstanding sub-rule (3), the addition of food conditioner to food is prohibited except as otherwise permitted by these regulations and codex guidelines.

(5) Notwithstanding sub-rule (3), where the addition of food conditioner to food is permitted by these regulations, only the food conditioner specified in table I may be added to such food:

Provided that the food conditioner specified in column (2) of table II may also be added to the food specified opposite thereto in column (1) of the said table I.

The following food conditioners listed under their class names are permitted in food:

**Table I**

**4.5.1 Emulsifiers and Anti-Foaming Agents**

Acetylated Monoglycerides

Dimethylpolysiloxane

Glyceryl Monostearate

Lecithins

Monoglycerides and diglycerides and their lactic, Tartaric, Diacetyl tartaric and Citric acid esters.

Phosphoric acid (Orthophosphoric acid) and its sodium, potassium and calcium monobasic, dibasic, and tribasic salt

Polyglycerol esters of fatty acid

Polyglycerol esters of interesterified ricinoleic acid

Polyoxyethylene sorbitan fatty acid esters

Propylene glycol alginate

Propylene glycol monoesters and diesters

Silicon dioxide amorphous

Sodium aluminium phosphate (basic)

Sodium and Potassium pyrophosphates (Tetrasodium and tetrapotassium diphosphate) and

Sodium and Potassium acid pyrophosphates (Disodium and dipotassium dihydrogen diphosphate)

Sodium and Potassium salts of fatty acid, which are derived from edible vegetable oil and edible vegetable fat

Sodium and Potassium tripolyphosphates

Sodium, Potassium and Calcium polyphosphates

Sorbitan fatty acid esters

Stearoyl lactic acid and its sodium and calcium salt

Sucroglycerides

Sucrose esters of fatty acid

**4.5.2 Stabilisers, thickeners, modified starches and gelling agents**

Acacia (Gum arabic)

Agar

Alginic acid and its sodium, potassium calcium and ammonium salts, and Propylene glycol alginate  
 Ammonium salts of phosphatidic acid  
 Calcium disodium ethylenediamine tetra-acetate  
 Calcium, trisodium and tripotassium citrate  
 Calcium glyconate  
 Calcium lactate  
 Calcium sulphate  
 Carbonate and bicarbonates of sodium, potassium, calcium and ammonium  
 Carob bean gum (locust bean gum)  
 Carrageenan  
 Casein and its sodium, calcium and potassium compounds, powdered cellulose, methyl glucose, methyl  
 Cellulose, Methyl ethyl cellulose, sodium carboxymethyl cellulose, microcrystalline cellulose, hydroxypropyl  
 cellulose and hydroxypropyl methyl cellulose, Cellulose  
 Dextrins  
 Dioctyl sodium sulfosuccinate  
 Flour and starch  
 Furcelleran  
 Gelatin (Halal)  
 Guar gum  
 Karaya gum  
 Magnesium hydroxide  
 Modified starches  
 Nitrous Oxide  
 Pectin  
 Penta potassium and Penta sodium triphosphate (potassium and sodium tripolyphosphate  
 Phosphoric acid (Orthophosphoric acid) and its sodium, potassium and calcium monobasic, dibasic, and Tri basic salts  
 Potassium acetate  
 Potassium and calcium salts of hydrochloric acid  
 Potassium nitrate  
 Propylene glycol  
 Sodium and potassium pyrophosphate (tetra sodium and tetra potassium diphosphate)  
 Sodium and potassium dihydrogen citrate  
 Sodium, potassium and calcium polyphosphate  
 Sorbitol  
 Tragacanth gum  
 Xanthan gum

#### **4.5.3 Acidity Regulators**

Acetic acid, Citric acid, Fumaric acid, Lactic acid, Malic acid, Tartaric acid, and the sodium potassium and calcium salts of the acid set forth in this group  
 Adipic acid  
 Carbonates and bicarbonates of sodium, potassium, ammonium and magnesium

Glucono delta-lactone

Hydroxides of sodium, potassium, calcium and ammonium

Phosphoric acid (Orthophosphoric acid) and its sodium, potassium and calcium monobasic salts, dibasic and tribasic salts.

Sodium aluminium phosphate

Vinegar

#### **4.5.4 Enzymes**

Amylase

Amylo glucosidase

Bromelain

Catalase

Cellulase

Dextranase

Ficin

Glucanase

Glucose isomerase

Glucose oxidase

Invertase

Malt carbohydrases

Papain

Pectinase

Pepsin

Protease

Proteinase

Pullulanase

Rennet and protein coagulating enzymes

Lactase

Lipase

#### **4.5.5 Solvents**

Ethyl acetate

Ethyl alcohol

Glycerol, Glyceryl monoacetate, Glyceryl diacetate, and Triacetin

Propylene glycol

#### **4.5.6 Anticaking agents**

Aluminium silicate

Calcium aluminium silicate

Calcium phosphate tribasic

Calcium silicate

Magnesium carbonate

Magnesium oxide

Magnesium phosphate tribasic

Magnesium silicate

Salts of myristic, Palmitic and Stearic acids with bases (sodium, potassium, Calcium, Aluminium, Magnesium and Ammonium)

Silicon dioxide amorphous

Sodium aluminosilicate

**Table II**

**Food Conditioner that may be added to Specified Food**

<b>Food</b>	<b>Food Conditioner</b>
Artificial sweetening agents	Ethyl maltol, Magnesium stearate maltol, Microcrystalline cellulose
	Polyethylene glycol (in tablet form only) Polyvinylpyrrolidone Silicon dioxide, stearic acid, Tricalcium , phosphate, (in granular and powdered form only)
Bread	Ammonium chloride, calcium and sodium salts of fatty acid Lactylates and Fumarates
Chocolate, white chocolate	Polyglycerol polyricinoleate
Colouring preparation (liquid form)	Acidity regulators
Cured, pickled or salted fish	Ascorbic acid , Sodium ascorbate, Isoascorbic acid, Sodium isoascorbate
Cured, pickled or salted fish	Ascorbic acid, sodium ascorbate, Isoascorbic acid, Sodium isoascorbate
Evaporated milk	Sodium salts of hydrochloric acid
Flavoured syrup	Ascorbic acid
Flour	Ascorbic acid, Benzoyl peroxide, Sulphur dioxide or sulphites
Flour confection	Ammonium chloride, Calcium and Sodium salts of Fatty acid lactylates & fumarates
Fruit drink	Ascorbic acid
Fruit juice and fruit pulp	Ascorbic acid
Fruit juice drink	Ascorbic acid
Iodized table salt	Sodium thiosulphate
Meat paste and, manufactured Meat	Ascorbic acid, Sodium ascorbate, Isoascorbic acid, Sodium isoascorbate
Pasta	Sodium silicate
Salt	Potassium ferrocyanide, Sodium ferrocyanide, Ferric ammonium citrate
Wheat flour and Protein increased Wheat for bread	Potassium bromate l-cysteine

Provided that the following emulsifying or stabilising agents shall not be used in milk and cream, Namely: Monoglycerides or diglycerides of fatty acids, Synthetic lecithin, Propyleneglycol Stearate, Propyleneglycol alginate, Methyl ethyl cellulose, Methyl cellulose, Sodium carboxymethyl cellulose, Stearyl tartaric acid esters of monoglycerides and diglycerides of fatty acids, Monostearin sodium sulphoacetate, sorbitan esters of fatty acids or in combination; Provided further that polyglycerol esters of fatty acids and polyglycerol ester of interesterified ricinoleic acid may be used in bakery product and in chocolate to the extent of 0.2 percent by weight.

Starch phosphate, a Gum-arabic substitute may be used in syrup, ice-cream powder, salad dressing and pudding to a maximum extent of 0.5 percent.

The following emulsifying and stabilising agents may be added to fruit products:

- 1) Pectin.
- 2) Sodium alginate
- 3) Calcium alginate
- 4) Alginic acid
- 5) Propylene glycol alginate

The addition of the following anticaking agents to table salt, onion powder, garlic powder, fruit powder and soup powder shall contain in concentration not exceeding 2.0 percent, either singly or in combinations, namely:

- 1) Carbonates of Calcium and Magnesium;
- 2) Phosphates of Calcium and Magnesium;
- 3) Silicates of Calcium, Magnesium, Aluminium or Sodium or Silicon dioxide;
- 4) Myristates, Palmitates or Stearates of Aluminium, Ammonium, Calcium, Potassium or Sodium;

Provided further that Calcium, Potassium or Sodium ferrocyanide may be used as crystal modifiers and anti-caking agent in common salt, iodised salt combination expressed as ferrocyanide.

Dimethyl polysiloxane, food grade may be used as an antifoaming agent in edible oils and fats for deep fat frying up to maximum limit of 10 parts per million.

#### **04.5.7 Other Food Additives**

**(i) “Antifoaming agent”** means substance, which retards deteriorative change and foaming height during heating. Spread as silicon spray (Dimethyl polysiloxane) if used as release agent in confectionery shall not exceed 100 ppm, of the finished product.

#### **(ii) Humectant:**

(a) means any substance which, when added to food, absorbs moisture and maintains the water content of food;



(b) No person shall sell any food containing glycerine (Halal) unless it is expressly permitted by these regulations

(iii) **“Sequestrant”** means any substance which, when added to food, combines with a metal ion in the food and renders the metal ion inactive so as to stabilize certain characteristics associated with the food, including color, flavour and texture.

No person shall sell or advertise for sale, with a view to its use in the preparation of food for human consumption any sequestrant other than the permitted sequestrants as given below:

Citric acid, phosphoric acid and tartaric acid or the calcium salts of the above-mentioned acids as well as glycine may be added to food to serve as sequestrants.

A sequestrant, Calcium disodium ethylenediaminetetra acetate (EDTA) may be used only in the following:

(a) Canned fish including crustaceans at a level not exceeding 250 ppm; and

(b) Mayonnaise, salad dressing, french dressing and margarine at a level not exceeding 75 ppm.

(iv) **“Emulsifier”** means a substance which forms or maintains a uniform mixture of two or more immiscible phases such surfaces as oil and water in a food.

(v) **“Antifoaming agent”** means a substance, which prevents or reduces foaming.

(vi) **“Stabilizer”** means any substance, which makes it possible to maintain the physicochemical state of a food including any substance, which enables a homogenous dispersion of two or more immiscible substances in a food to be maintained and any substance, which stabilizes, retains or intensifies an existing colour of a food.

(vii) **“Thickener”** means a substance, which increases the viscosity of a food.

(viii) **“Gelling agent”** means a substance, which gives a food texture through formation of a gel.

(ix) **“Acidity regulator”** means a substance, which alters or controls the acidity or alkalinity of a food.

(x) **“Anti-caking agent”** means a substance, which reduces the tendency of particles of food to adhere to one another.

(xi) **“Bulking agent”** means a substance other than air or water, which contributes to the bulk of a food without contributing significantly to its available energy value.

(xii) **“Firming agent”** means a substance, which makes or keeps tissues of fruit or vegetables firm and crisp or interacts with gelling agents to produce or strengthen a gel.

**(xiii) “Foaming Agent”** means a substance that facilitates formation of foam by reducing surface tension of a liquid (reduces the work needed to create the foam) or increases its colloidal stability by inhibiting coalescence of bubbles.

**(xiv) “Glazing agent”** means a substance which, when applied to the external surface of a food, imparts a shiny appearance or provides a protective coating.

**(xv) Gaseous packaging agent**

means any substance used:

**(i)** As an aerating agent or propellant in the storage or packaging of any fluid food; or

**(ii)** To displace air in a sealed package or in a place of storage, in the storage or packaging of any food.

No person shall use in the storage or packaging of any food any gaseous packaging agent other than:

**(i)** Carbon dioxide;

**(ii)** Nitrogen; and

**(iii)** Helium.

**(xvi) “Raising agent”** means a substance or combination of substances, which liberate gas and thereby increase the volume of dough.

**(xvii) “Buffering agent”** are materials used to counter acidic and alkaline changes during storage or processing steps, thus improving the flavour and increasing the stability of food.

**(xviii) “Modified starch”** a product obtained from the treatment of starch with certain chemicals to modify the physical characteristic of the native starch. It is used in desserts, pie filling, gravies and fabricated food as thickeners, binders and stabilizers.

#### **4.6 Non-nutritive sweetening agents in food:**

**(1)** “Non-nutritive sweetening agent in food” means any substance that, when added to food, is capable of imparting a sweet taste to that food but does not include any sugar, other carbohydrate, polyhydric alcohols, honey and moreover does not have nutritive properties.

**(2)** The addition to an article of food of any non-nutritive sweetener in contravention of the following clauses shall be deemed to be a contravention within the meaning of Section 4:

**(a)** Any food which purports to be or is presented for any special dietary use by man, by reason of the presence of any constituent which is not utilised on normal metabolism shall bear on its label a statement of the percent by weight of such constituent and in juxta position with the name of such constituent the word “artificial” or “artificial non-nutritive sweetening agent” or “natural non-nutritive sweetening agent”

**(b)** Where an sweetening agent/non-nutritive sweetener has been added to any food, the label shall bear in lieu of the statement prescribed in Clause (a) 'contains artificial or non-nutritive sweetening agent (here state the appropriate designation of the non-nutritive sweetening agent

in capital letters)\_\_\_\_\_ (here state the percentage by weight of non-nutritive sweetening agent in such food): a non-nutritive sweetener should be used only by persons who must restrict their intake of ordinary sweets;

**(c)** The use of non-nutritive sweetener in or upon any food, which is consumed by children for refreshment, shall be prohibited; and

**(d)** The use of artificial sweetening agents in or upon pan masalas, pan flavouring substance, confectionery, chewing substances and including any such food is prohibited.

### **(3) Non-Nutritive Sweeteners**

**(3a)** No artificial non-nutritive sweetening agent except the following shall be used in the preparation of any food, subject to the labeling requirements:

(a) Saccharine and its sodium salt (E954);

(b) Aspartame (E951); and

(c) Acesulfame K (E950)

(d) Sucralose (E955)

**(3b)** No natural non-nutritive sweetening agent except the following shall be used in the preparation of any food subject to the labelling requirements:

(a) Steviol Glycoside

*Note: The blending of nutritive sweeteners with non-nutritive sweeteners and the use of Non-nutritive sweeteners in the general or regular category food/drinks is not allowed as per Punjab Pure Food Regulations, 2018.*

**(4)** No non-nutritivesweetener shall be added to any article of food, provided that artificial sweetener may be used in food articles in the table below in quantities not exceeding the limits shown against them

Sr. No	Name of sweetener	Article of Food	Maximum limit of sweetener
1	Saccharin sodium	Carbonated water	100 ppm
		Soft drink concentrate	100 ppm
		Pan flavouring material	8.0 percent
		Synthetic syrup for dispenser	450 ppm
		Sweets (carbohydrates based and milkproducts Based): Halwa, Boondi Ladoo, Jalebi, Khoya, Burfi, Gulab Jamun, Rasogolla and similar milk product based sweets sold by any name.	500 ppm
		Chocolate (white, milk, plain, composite and filled)	500 ppm
		Sugar based /sugar free confectionery	3000 ppm
		Chewing gum/ bubble gum	3000 ppm

2	Aspartame (Methyl ester)	Carbonated water	700 ppm
		Soft drink concentrate	7000 ppm
		Biscuits, bread, cakes and pastries	2200 ppm
		Sweets, (carbohydrates based and milk products based)	200 ppm
		Halwa, Boondi Ladoo, Jalebi	200 ppm
		Khoya Burfi, Gulab jamun, Rasgolla and similar milk product based sweet sold by any name.	200 ppm
		Jam, jellies, Marmalades	1000 ppm
		Chocolate (white, milk, plain, composite and filled	2000 ppm
		Sugar based / sugar free confectionery	10000 ppm
		Chewing gum /bubble gum	10000 ppm
		Synthetic syrup for dispenser	3000 ppm
3	Acesulfame Potassium	Carbonated water	300 ppm
		Soft drink concentrate	300 ppm
		Biscuits, bread, cakes and pastries	1000 ppm
		Sweets ( carbohydrates based and milk product based): Halwa, Boondi Ladoo, Jalebi, Khoya Burfi, Gulab Jamun, Rasogolla and Similar milk product based sweet sold by any name	500 ppm
		Chocolate ( white, milk, plain, composite and filled	500 ppm
		Sugar based / sugar free confectionery	3500 ppm
		Chewing gum /bubble gum	5000 ppm
		Synthetic syrup for dispenser	1500 ppm
4	Sucralose		As per Codex
5	Steviol Glycoside		As per codex

#### Explanation i

Pan flavoring material refers to the flavouring agents permitted for human consumption to be used for pan. It shall be labeled as "Pan Flavouring Material".

#### Explanation ii

The maximum limit of artificial sweetener in soft drink concentrate shall be as in reconstituted beverage or in final beverage for consumption. Soft drink concentrate label shall give clear instruction for reconstitution of products for making final beverage.

(5) No mixture of artificial sweeteners shall be added to any article of food or in the manufacture of table top sweeteners:

Provided that in case of carbonated water, soft drink concentrate and synthetic syrup for dispenser, wherein use of aspartame and acesulfame potassium have been allowed in the

alternative, as per table given, these artificial sweeteners may be used in combination with one or more alternative if the quantity of each artificial sweetener so used does not exceed the maximum limit specified for that artificial sweetener in column (4) of the said table as may be worked out on the basis of proportion in which such artificial sweeteners are combined.

(6) The products containing mixture of artificial sweeteners shall bear the label as provided in these regulations.

### **Illustration**

In column (3) of the said table, in carbonated water, Aspartame (Methyl ester) or Acesulfame potassium may be added in the proportion of 700 ppm or 300 ppm respectively. If both artificial sweeteners are used in combination and the proportion of aspartame (Methyl ester) is 350 ppm, the proportion of Acesulfame potassium shall not exceed the proportion of 150 ppm.

(7) No person shall sell table top sweetener except under label declaration as provided in these regulations: Provided that Aspartame may be marketed as a table top sweetener in tablet or granular form in moisture proof package and the concentration of aspartame shall not exceed 18 mg per 100 mg of tablet or granule.

(8) The label statement of foods containing artificial sweetening agents/non-nutritive sweetener shall, in addition, conform to the requirements of any other provisions of these regulations.

(9) An artificial sweetening agent/non-nutritive sweetener preparation in a tablet, granular, powder or liquid form shall be the product of the artificial sweetening agent in a base which may contain any of the substance given below:

(a) Acacia (Gum arabic), agar, Alginic acid and its sodium, potassium and ammonium salts, Calcium alginate and propylene, Glycol alginate, Carrageenan, Citric acid, Dextrin, dextrose, Ethyl alcohol, Glucono-delta-lactone, glycerol, Guar gum, Karaya gum, Hydroxypropylmethylcellulose, L-leucine, Locust bean gum, Mannitol, Methylcellulose, mono-di-and polysaccharides, Pectin, Potassium acid tartrate, Propylene glycol, Sodium bicarbonate, Sodium carboxymethylcellulose, Sodium citrate, Sodium phosphate, Sorbitol, Tartaric acid, Tragacanth gum, Water, Xanthan gum.

(b) A liquid preparation of artificial sweetening agents/non-nutritive sweetener may contain sulphur dioxide, benzoic acid or sorbic acid in a proportion not exceeding at total of 2000 ppm whether present singly or in any combination as permitted preservative.

(c) An artificial sweetening agents/non-nutritive sweetener preparation may contain polyethylene glycol in a proportion not exceeding 01 percent and other food conditioners as specified by these regulations.

(10) There shall be written in the label of a package containing an artificial sweetening agents/non-nutritive sweetener preparation:

(a) In not less than 10 point lettering, the words “Artificial Sweetening Agent/Non-Nutritive Sweetener” to be followed immediately by the name of the artificial sweetening agent/ non-nutritive sweetener;

(b) A statement of concentration:

(i) In the case of tablets, as milligrams per tablet;

(ii) In the case of liquids, as percentage weight in volume; and

(iii) In the case of granules or powder as milligrams per serving contained in a sachet or similar package;

(c) A statement indicating the equivalence of the artificial sweetening agents/ non-nutritive sweetener both in sweetness and energy;

(11) Artificial sweetening agents/non-nutritive sweetener shall not be sold unless the package carries a label showing:

(a) The words “Artificial Sweetening Agent/Non-Nutritive Sweetener” to be followed immediately by the name of the artificial sweetening agent/non-nutritive sweetener;

(b) The name of the chemical;

(c) Adequate direction for use in foods;

(d) A statement of concentration:

(i) In the case of tablets as milligrams per tablet;

(ii) In the case of granules or powder as milligrams per serving contained in a sachet or similar package;

(iii) A statement indicating the equivalence of the artificial sweetening agent/non-nutritive sweetener both in sweetness and energy;

(iv) The words “Not Recommended for Children” except where the artificial sweetening agent preparation contains aspartame as the only artificial sweetening agent/non-nutritive sweetener; and

(v) A statement in the form “Not recommended for phenylketonurics and Pregnant Women” where the artificial sweetening agent/Non-Nutritive sweetener/preparation contains aspartame

#### **4.13. Unsound food and food injurious to health/incidental constituent**

(1) Means any extraneous substances, metal contaminants, crops contaminants and naturally occurring toxic substances/mycotoxin residue, drug residue, antibiotic residue, hormonal

residue, insecticides residue, pesticides residue, microorganism and their toxins, and irradiated constituents that is contained or present in or any food but does not include any colouring matter, preservative, flavouring agent, flavouring enhancer, anti-oxidant, food conditioners, artificial sweetening agent, nutrient supplement.

(2) No person shall keep, carry, spread or use, or cause or permit to keep, carry, spread or use any toxic, noxious or harmful substance so as to expose a food intended for sale to the risk of contamination by that substance at any time in the course of preparation, manufacture, storage, packaging, carriage, delivery, or exposure for sale, of the food.

(3) No person shall import, prepare or advertise for sale or sell any food containing any incidental constituent except as otherwise specified in these regulations.

(4) Any article of food shall be considered as injurious to health and unfit for human consumption within the meaning of Section 5, if:

(a) It is putrefied or decayed or emits a bad smell; or

(b) It is infested with insects; or

(c) It has evidence of filth or of rodent excretion or hair.

(5) No person shall import, prepare or advertise for sale or sell any food, specified in column (2) of the table below, which contains any metal specified in excess of the quantity specified in column (3) of the said table:

<b>Metal</b>	<b>Article of food</b>	<b>Parts per million by weight</b>
Lead	Beverages: Concentrated soft drinks (but not including concentrates used in the manufacture of soft drinks).	0.2
	Fruit and vegetable juice (including tomato juice, but not including lime juice and lemon juice)	0.2
	Concentrates used in the manufacture of soft drinks, lime juice and lemon juice	1.0
	Baking powder	2
	Edible oils and fats	0.1
	Infant milk substitute and infant foods	0.01
	Turmeric whole and powder	0.2
	Other foods	0.2
	Anhydrous dextrose and dextrose monohydrate, edible oils and fats, refined white sugar (sulphated ash content not exceeding 0.03 %)	0.5
	Ice-cream, iced lollies and similar frozen confections.	0.5
	Canned fish, canned meats, edible gelatin, meat extracts and hydrolysed protein, dried or dehydrated vegetables (other than onions)	2.0
	Raw sugars except those solid for direct consumption or used for manufacturing purposes other than the	

	manufacture of refined sugar.	2.0
	Edible molasses, caramel, liquid and solid glucose and starch conversion products with a sulphated ash content exceeding 1.0%.	
	Cocoa powder	2.0(on the dry fat free substances)
	Tea, dehydrated onions, dried herbs and spices, flavorings, alginic acid, alginates, agar, carrageenan and similar products dried from seaweed. liquid pectin, chemicals not otherwise specified, used as ingredients or in the preparation or processing of food.	2.0
	Food coloring other than caramel	10.0
	Solid pectin	10.0
	Hard boiled sugar confectionery	0.5
	Corned beef, luncheon meat, chopped meat, canned chicken, canned mutton and goat meat	2.0
	Foods not specified	2.0
Copper	Beverages soft drinks excluding concentrates and carbonated water	7.0
	Carbonated water	1.5
	Concentrates for soft drink	20
	Other foods	
	Chicory dried or roasted, coffee beans, flavourings, pectin-liquid	30
	Coloring (on the dry coloring matter)	30
	Edible gelatin	30
	Tomato ketchup (on the dried total solids)	50
	Yeast and yeast products(on the dry matter)	60
	Cocoa powder(on the fat free substance)	70
	Tomato puree, paste, powder juice and cocktails (on the dried tomato solids)	
	Tea	50
	Pectin-solid	150
	Hard boiled sugar confectionery	300
	Turmeric whole and powder	5
	Juice of Orange, Grape, Apple, Tomato, Pineapple and Lemon	5
	Infant milk substitute and infant foods (but not less than 2.8)	5
	Foods not specified	30
Arsenic	Milk	0.1
	Beverages soft drink intended for consumption after dilution except carbonated water	0.1
	Carbonated water	0.1
	Infant milk substitute and infant food	0.05
	Turmeric whole and powder	0.1
	Juice of Orange, Grape, Apple, Tomato, Pineapple and Lemon	0.2
	Pulp and pulp products of any fruit	0.2
	Preservatives, anti-oxidants, emulsifying and	



	stabilizing agents and synthet food colors. (on dry basis)	
	Other foods	
	Ice-cream, ice lollies and similar frozen confections	0.30
	Dehydrated onions, edible gelatin, liquid pectin	0.5
	Chicory-dried or roasted	2.0
	Dried herbs, fining and clearing agents, solid pectin all grades, spices	1.0
	Food coloring other than synthetic coloring. (on dry coloring matter)	3.0
	Hard boiled sugar confectionary	1.0
	Foods not specified	As per codex
Tin		
	Processed and canned products	40.0
	Jam, jellies and marmalade	40.0
	Juice of orange, apple tomato, pineapple and lemon	40.0
	Pulp and products of any fruit	40.0
	Hard boiled sugar confectionary	5.0
	Infant milk substitute and infant foods	5.0
	Turmeric whole and powder	nil
	Corned beef, luncheon meet, cooked ham, chopped meat, canned chicken, canned mutton and goat meat	40.0
	Foods not specified	40.0
Zinc Sulphate	Ready to drink beverages	5.0
	Juice of Orange, Grape Tomato, Pineapple and Lemon	5.0
	Pulp and pulp products of any fruit	5.0
	Infant milk substitute and infant foods	50
	Edible gelatin	100
	Turmeric whole and powder	25
	Fruit products covered under the fruit products order, 1955	50
	Hard boiled sugar confectionery	5.0
	Foods not specified	50
Cadmium	Infant milk substitutes and infant foods	0.1
	Turmeric whole and powder	0.1
	Other Foods	As per codex
Mercury	All foods	0.5
Methyl mercury (calculated as the element)	Fish and all other Sea Foods	0.05
Chromium	Refined sugar	20 ppb
Nickel	All hydrogenated, partially hydrogenatd, interesterified vegetable oils and fats such as Vanaspati, table margarine, bakery shortening, fat spread and patially hydrogenated soyabean oil.	0.025

(6) "Crop contaminants" mean any substance not intentionally added to food, but which gets added to articles of food in the process of their production (including operations carried out in crop husbandry, animal husbandry and veterinary medicine), manufacture, processing,

preparation, treatment, packing, packaging, transport or holding of articles of such foods as a result of environmental contamination.

(7) No article of food specified in column (2) of the table below shall contain crop contaminant specified in the corresponding entry in column (1) thereof in excess of quantities specified in the corresponding entry in column (3) of the said table:

**Table**

<b>Name of contaminant</b>	<b>Article of food</b>	<b>Maximum Limit µg/kg</b>
Aflatoxin	All articles of food	20
Aflatoxin M1	Packaged liquid milk	0.5
Patulin	Apple juice & apple juice ingredients in other beverages	50
Ochratoxin A	Wheat, barley & rye	20

(8) The toxic substances specified in column (1) of the table below, which may occur naturally in any article of food, shall not exceed the limit specified in the corresponding entry in column (2) of the said table.

**Table**

<b>Name of substance</b>	<b>Maximum limit</b>
Agaric acid	100 ppm
Hydrocyanic acid	05 ppm
Hypericine	01 ppm
Safrole	10 ppm

(9) In these regulations:

(a) **“Drug”** including **‘veterinary Drugs’** means any substance or mixture used internally for therapeutic, prophylactic or growth promotion purposes or for modification of physiological function or behaviour in animals; and

**“Drug residues” including “Veterinary Drug residue”** means the parent compounds of the drug and their metabolites in any edible portion of the animal product, and includes residues of associated impurities of the drug concerned. Maximum drug residues shall be followed as per CAC/MRL 2-2015, Maximum Residue Limits (MRLS) and Risk Management Recommendations (RMRS) for residues of veterinary drugs in Foods.

(10) The amount of antibiotic mentioned in column (2) on the sea foods including shrimps, prawns or any other variety of fish and fishery products shall not exceed the tolerance limit prescribed in column (3) of the table given below.

**Table**

<b>Sr. No</b>	<b>Name of antibiotics</b>	<b>Tolerance Limit mg/kg (ppm)</b>
1	Tetracycline	0.1
2	Oxytetracycline	0.05
3	Trimethoprim	0.05
4	Oxolinic acid	0.3

(11) The use of any of the following antibiotics and other pharmacologically active substances shall be prohibited. In any unit processing sea foods including shrimps, prawns or any other variety of fish and fishery products:

All nitrofurans including

- |                          |  |
|--------------------------|--|
| (a) Furaltadone          | (p) Chloramphenicol  |
| (b) Furazolidon          | (q) Neomycin   |
| (c) Furfuramide          | (r) Nalidixic acid   |
| (d) Nitratel             | (s) Sulphamethoxazole  |
| (e) Nifuroxime           | (t) Aristolochia spp and preparation thereof   |
| (f) Nifurprazine         | (u) Chloroform   |
| (g) Nitrofurantoin       | (v) Chlorpromazine   |
| (h) Nitrofurazone        | (w) Colchicine   |
| (i) Dapsone              |  |
| (j) Dimetridazole        | (x) Diethylstilbestrol   |
| (k) Metronidazole        | (y) Sulfonamide drugs (except approved Sulfadimethoxine, Sulfabromomethazine and sulfamethoxypyridazine) |
| (l) Ronidazole           |  |
| (m) Iprnidazole          | (z) Fluoroquinolones   |
| (n) Other nitromidazoles | (aa) Glycopeptides   |
| (o) Clenbuterol          |  |

(12) No person shall prepare, advertise for sale or sell any meat or any food derived from meat, which contains residues of the following compounds:

- (i) Diethylstilbestrol; (3,4-bis(p-hydroxyphenyl)-3-hexene);
- (ii) Hexoestrol; (3, 4-bis (p-hydroxyphenyl)-n-hexane);
- (iii) Dienostrol (3, 4-bis (p-hydroxyphenyl)-2, 4-hexadiene).

(13) The restriction on the use of insecticides is subject to the provision of the table below and, no insecticide shall be used directly on any article of food. The maximum amount of insecticide residues are mentioned in column 3, their corresponding names in column 1 and food types are mentioned in column 2 of the table given below.,

**Table**

<b>Name of insecticide</b>	<b>Food</b>	<b>Tolerance limit mg/kg (ppm)</b>
Aldrin dieldrin, (the limits apply to aldrin or dieldrin singly or in any combination and are expressed as dieldrin)	Food grains	0.01
	Milled food grains	Nil
	Milk and milk products	0.15(on a fat basis)
	Fruit and vegetable	0.1
	Meat	0.2
	Eggs	0.1(on a shell free basis)
Carbaryl	Fish	0.2
	Foodgrains	1.5
	Milled foodgrains	Nil
	Okra and leafy vegetables	10.0
	Potatoes	0.2
	Other vegetables	5.0
	Cottonseed ( whole)	1.0
	Maize cob (kernels)	1.0
	Maize	0.5
	Rice	2.5
	Chilies	5.0
Chlodrane (residue to be measured as cis plus trans chlodrane)	Food grains	0.02
	Milled food grains	Nil
	Milk and milk products	0.05(on a fat basis)
	Vegetables	0.2
	Fruits	0.1
	Sugar beet	0.3
D.D.T. (the limits apply to D.D.T., D.D.D and D.D.E. Singly or in any combination	Milk and milk products	1.25(on a fat basis)
	Fruits and vegetables (including potatoes)	3.5
	Meat, poultry and fish	7.0(on whole product basis)
	Egg	0.5(on a shell free basis)
Diazinon	Food grains	0.05
	Milled food grains	Nil
	Vegetables	0.5
Dicofol	Fruits and Vegetables	5.0
	Tea (dry manufactured )	5.0
	Chilies	1.0
Dichlorvos (content of dichloroacetaldehyde) (DCA) be reported where Possible	Foodgrains	1.0
	Milled foodgrains	0.25
	Vegetables	0.15
	Fruits	0.1
Dimethoate (residue to be determined as dimethoate and expressed as dimethoate)	Fruits and vegetables	2.0
	Chillies	0.5
Endosulfan (residues are measured and reported as total of endosulfan a and b and endosulfan-sulphate)	Fruits and vegetabeles	2.0
	Cottonseed	0.5
	Cottonseed oil	0.2
	(crude)	0.2

	Bengal gram Pigeon pea Fish Chillies Cardamom	0.2 0.1 0.2 1.0 1.0
Fenitrothion	Foodgrains Milled foodgrains Milk and milk products Fruits Vegetables Meat	0.02 0.005 0.05(on a fat basis) 0.5 0.3 0.03
Heptachlor (combined Residues of heptachlor And epoxide to be Determined and expressed as heptachlor)	Foodgrains Milled foodgrains Milk and milk products Vegetables	0.01 0.002 0.15(on a fat basis) 0.05
Hydrogen cyanide	Food grains Milled food grains	37.5 3.0
Hydrogen phosphide	Food grains Milled food grains	Nil Nil
Inorganic bromide(determined and expressed as total bromide from all sources)	Food grains Milled food grains Fruits Dried fruits and spices	25.0 25.0 30.0 400.0
Hexachlorocyclohexane and its isomers ( $\alpha$ ) alpha, isomer:	Rice grain unpolished Rice grain polished Milk (whole) Fruits and vegetables Fish	0.10 0.05 0.02 1.0 0.25
( $\beta$ ) beta isomer	Rice grain-unpolished Rice grain polished Milk (whole) Fruits and vegetables Fish	0.1 0.05 0.02 1.0 0.25
( $\gamma$ ) gamma isomer Known as lindane	Food grains except rice Milled food grains Rice grain unpolished Rice grain polished Milk Milk products (having less than 2 percent fat) Fruits and vegetables Fish Eggs Meat and poultry	0.1 Nil 0.1 0.05 0.01(on a whole basis) 0.2(on a whole basis) 1.0 0.25 0.1(on shell free basis) 2.0
Malathion (malathion to be determined and expressed as combined residue of malathion and malaaxon)	Food grains Milled food grains Fruits Vegetables Dried fruits	4.0 1.0 4.0 3.0 8.0
Parathion (combined residues	Fruits and vegetables	0.5

of parathion and paraoxon to be determined and expressed as parathion)		
Parathion methyl (combined residue of parathion methyl and its oxygen analogue to be determined and expressed as parathion methyl)	Fruits Vegetable	0.2 1.0
Phosphamidon residues (expressed as the sum of phosphamidon and its desethyl derivative)	Food grains Milled food grains Fruits and vegetables	0.05 Nil 0.2
Pyrethrins (sum of pyrethrins i and ii and other structurally related insecticidal ingredients of pyrethrum)	Food grains Milled food grains Fruits and vegetables	Nil Nil 1.0
Chlorfenvinphos	Food grains Meat and poultry Milk and milk products Egg Coffee (raw beans)	0.025 0.02 0.02 0.02(on a shell free basis) 0.1
Paraquat-dichloride (determined as paraquat cations)	Food grains Milled food grains Potatoes Other vegetables Cotton seed Cottonseed oil (edible refined) Milk (whole) Fruits	0.1 0.025 0.2 0.05 0.2 0.05 0.01 0.05
Phosalone	Pears Citrus fruits Other fruits Potatoes Other vegetables Rapeseed/mustard oil (crude)	2.0 1.0 5.0 0.1 1.0 0.05
Trichlorfon	Food grains Milled food grains Sugar beet Fruits and vegetables Oil seeds Edible oil (refined) Meat and poultry Milk (whole)	0.05 0.0125 0.05 0.1 0.1 0.05 0.1 0.05
Thiometon (residues determined as thiometon its sulfoxide and sulphone expressed as thiometon)	Food grains Milled food grains Fruits Potatoes, carrots and sugar beets Other vegetables	0.025 0.006 0.5 0.05 2.5
Acephate	Safflower seed Cotton seed	2.0 2.0
Methamido-phos (a metabolite)	Safflower seed	0.1

of acephate)	Cotton seed	0.1
Aldicarb (sum of aldicarb, its sulphoxide and sulphone, expressed as aldicarb)	Potato	0.5
	Chewing tobacco	0.1
Atrazine	Maize	Nil
	Sugarcane	0.25
Carbendazim	Food grains	0.5
	Milled food grains	0.12
	Vegetables	0.50
	Mango	2.0
	Banana (whole) Other fruits	1.0
	Cotton seed	5.0
	Groundnut	0.1
	Sugar beet	0.1
	Dry fruits	0.1
	Eggs	0.1
	Meat & poultry	0.1 (on shell free basis)
	Milk & milk products	0.1 (carcass fat basis)
		0.1 (fat basis)
Benomyl	Food grains	0.5
	Milled food grains	0.12
	Vegetables	0.5
	Mango	2.0
	Banana (whole)	1.0
	Other fruits	5.0
	Cotton seed	0.1
	Groundnut	0.1
	Sugar beet	0.1
	Dry fruits	0.1
	Eggs	0.1 (on shell free basis)
	Meat & poultry	0.1 (carcass fat basis)
	Milk & milk products	0.1 (fat basis)
Captan	Fruit & vegetable	15.0
Carbofuran (sum of carbofuran and 3-hydroxy carbofuran expressed as carbofuran)	Food grains	0.1
	Milled food grains	0.03
	Fruit & vegetable	0.1
	Oil seed	0.1
	Sugarcane	0.1
	Meat & poultry	0.1 (carcass fat basis)
	Milk & milk products	0.05 (fat basis)
Copper oxychloride (determined as copper)	Fruit	20.0
	Potato	1.0
	Other vegetables	20.0
Cypermethrin (sum of isomers (fat soluble residue)	Wheat grains	0.05
	Milled wheat grains	0.01
	Brinjal	0.20
	Cabbage	2.0
	Bhindi	0.2
	Oil seeds except groundnut	0.2
	Meat & poultry	0.2 (carcass fat basis)
	Milk & milk products	0.01 (fat basis)
Decamethrin/deltamethrin	Cotton seed	0.1
	Food grains	0.5

	Milled food grains	0.2
Edifenphos	Rice Rice bran Eggs Meat & poultry Milk & milk products	0.02 1.0 0.01 (on shell free basis) 0.02 (carcass fat basis) 0.01 (fat basis)
Fenthion (sum of fenthion, its oxygen analogue and their sulphoxides and sulphones, expressed as fenthion)	Food grains Milled food grains Onion Potatoes Beans Peas Tomatoes Other vegetables Musk melon Meat & poultry Milk & milk products	0.1 0.03 0.1 0.05 0.1 0.5 0.5 1.0 2.0 2.0 (carcass fat basis) 0.05 (fat basis)
Fenvalerate (fat soluble residue)	Cauliflower Brinjal Okra Cotton seed Cotton seed oil Meat & poultry Milk & milk products	2.0 2.0 2.0 0.2 0.1 1.0 (carcass fat basis) 0.01 (fat basis)
Dithiocarbamates (the residue tolerance limit are determined and expressed as mg/cs/kg and refer separately to the residues arising of dithiocarbamates (a)Ethylene bis-dithio-carbamates resulting from the use of mancozeb mane, or zineb(including zineb derived from nabam plus zinc sulphate) (b)Dimethyl dithio-carbamates residue resulting from the use of ferbam or ziram and (c)Mancozeb	Food grains Milled food grains Potatoes Tomatoes Cherries Other fruits  Chillies	0.2 0.05 0.1 3.0 1.0 3.0  1.0
Phenthoate	Food grains Milled food grains Oilseed Edible oils Eggs Meat & poultry Milk & milk products	0.05 0.01 0.03 0.01 0.05 (on shell free basis) 0.05 (carcass fat basis) 0.01 (fat basis)
Phorate (sum of phorate, its oxygen analogue and their sulphoxides and sulphones, expressed as phorate)	Food grains Milled food grains Tomatoes Other vegetables Fruits	0.05 0.01 0.1 0.05 0.05



	Oil seeds	0.05
	Edible oils	0.03
	Sugarcane	0.05
	Eggs	0.05 (on shell free basis)
	Milk & milk products	0.05 (fat basis)
Simazine	Maize	Nil
	Sugarcane	0.25
Pirimiphos-methyl	Rice	0.5
	Food grains except rice	5.0
	Milled food grains except rice	1.0
	Eggs	0.05 (on shell free basis)
	Meat & poultry	0.05 (carcass fat basis)
	Milk & milk products	0.05 (fat basis)
Alachlor	Cotton seed	0.05
	Groundnut	0.05
	Maize	0.1
	Soyabeans	0.5
Alfa naphthyl 1 acetic acid (ANA)	Pineapple	0.5
Bitertanol	Wheat	0.05
	Groundnut	0.10
Captafol	Tomato	5.0
Cataphydro chloride	Rice	0.5
Chlormequat chloride	Grape	1.0
	Cotton seed	1.0
Chlorothalonil	Groundnut	0.1
	Potato	0.1
Diflubenzuron	Cotton seed	0.2
Dodine	Apple	5.0
Diuron	Cotton seed	1.0
	Banana Maize	0.1
	Ciytud (sweet orange)	0.5
	Grapes	1.0
		1.0
Ethephon	Pine apple	2.0
	Coffee	0.1
	Tomato	2.0
	Mango	0.05
Fluchloralin	Cotton seed	0.05
	Soyabeans	0.05
Malic hydrazide	Onion	15.0
	Potato	50.0
Metalaxyl	Bajra	0.05
	Maize	0.05
	Sorghum	0.05
Methomyl	Cotton seed	0.1
Methyl chloro	Rice Wheat	0.05
Phenoxyacetic acid (MCPA)		0.05
Oxydiazon	Rice	0.03
Oxydemeton methyl	Food grains	0.02
Permethrin	Cucumber	0.5

	Cotton seed	0.5
	Soyabeans	0.5
	Sunflower seed	1.0
Quinolphos	Rice	0.01
	Pigeonpea	0.01
	Cardamom	0.01
	Tea	0.01
	Fish	0.01
	Chillies	0.2
Thiophanatemethyl	Apple	5.0
	Papaya	7.0
Triazophos	Chillies	0.2
	Rice	0.05
	Cotton seed oil	0.1
	Soyabeans oil	0.05
Perofenofos	Cotton seed oil	0.05
Fenpropathrin	Cotton seed oil	0.05
Fenarimol	Apple	5.0
Hexaconazole	Apple	0.1
Fenarimol	Apple	0.1
Iprodione	Rape seed	0.5
	Mustard	0.5
	Rice	10.0
	Tomato	5.0
	Grapes	10.0
Tridemorph	Wheat	0.1
	Grapes	0.5
	Mango	0.05
Penconazole	Grapes	0.2
Myclobutanil	Groundnut seed	0.1
	Grapes	1.0
Sulfosulfuron	Wheat	0.02
Trifluralin	Wheat	0.05
Ethoxysulfuron	Rice	0.01
Metolachlor	Soyabean oil	0.05
Glyphosate	Tea	0.05
Linuron	Pea	0.05
Oxyfluorfen	Rice	0.05
	Groundnut oil	0.05
Carbosulfan	Rice	0.2
Carbosulfan	Rice	0.02
Imidacloprid	Cotton seed oil	0.05
	Rice	0.05
Butachlor	Rice	0.05
Chlorimuron-ethyl	Wheat	0.05
Diclofop-methyl	Wheat	0.1
Metribuzin	Soyabean oil	0.1
Lambdacyhalothrin	Cotton seed oil	0.05
Fenazaguin	Tea	3.0
Pendimethalin	Wheat	0.05
	Rice	0.05
	Soyabean oil	0.05

	Cotton seed oil	0.05
Pretilachlor	Rice	0.05
Fluvalinate	Cotton seed oil	0.05
Metasulfuon-methyl	Wheat	0.1
Methbenzthiazuron	Wheat	0.5
Imazethapyr	Soyabean oil	0.1
	Groundnut oil	0.1
Cyhalofop-butyl	Rice	0.5
Triallate	Wheat	0.05
Spinosad	Cotton seed oil	0.02
	Cabbage	0.02
	Cauliflower	0.02
Thiamethoxam	Rice	0.02
Fenobucarb	Rice	0.01
Thiodicarb	Cotton	0.02
Anilphos	Rice	0.1
Fenoxyp-prop-p-ethyl	Wheat	0.02
	Soya bean seed	0.02
Glyfosinate-ammonium	Tea	0.01
Clodinafop-proparyl	Wheat	0.1
Dithianon	Apple	0.1
Kitazin	Rice	0.2
Isoprothiolane	Rice	0.1
Acetamiprid	Cotton seed oil	0.1
Cymoxanil Triadimenton	Grapes	0.1
	Wheat	0.1
	Pea	0.1
Fosetyl-al	Grapes	10
	Cardamom	0.2
Isoproturon	Wheat	0.1

(14) A mixed food containing one or more of the foods in which pesticide residues are permitted shall not contain such residues in greater amount than is permitted for the quantity of the food or foods containing residues used in the preparation of the mixed food.

(15) Any article of food containing the residue of two or more of the pesticides specified unless the sum of the fractions obtained by dividing the quantity of the pesticide present by the maximum quantity of each pesticide permitted to the present if use alone shall not exceed unity.

(16) "Microorganisms and their toxins" include bacteria, fungi and their toxins:

(17) No food shall be prepared or advertised for sale or sold as ready for consumption, which is contaminated with pathogenic microorganisms.

(18) No food shall contain bacteria in proportion greater than the proportion given below in Table against each item.

(19) Without prejudice to the standards laid down in these regulations, whenever water is used in the manufacture or preparation of any article of food, such water shall be free from

microorganism likely to cause disease and also free from chemical constituents, which may impair health:

**Table: Microorganisms and their toxins**

<b>Food</b>	<b>Total plate count At 37°C for 48 hr. Max</b>	<b>Coliform count At 37 °C for 48 hr. Max</b>	<b><i>Escherichia coli</i> count.</b>
Pasteurized milk, pasteurized cream and milk powder (including full cream and skim milk powder)	$10^5$ / g or $10^5$ / mL or g	05/mL or g	Absent
Ice cream	$5 \times 10^4$ / g	10/mL or g	Absent
Meat and meat product ready for consumption, excluding meat and meat product in hermetically sealed containers	$10^6$ / g	1000/ g	
Fish and fish product ready for consumption excluding fish and fish product in hermetically sealed containers	$10^6$ /g	10/ g	10/g
Infant formula	$10^3$ /g	10/ g	Absent
Liquid whole egg, liquid egg yolk and liquid egg white.	$5 \times 10^4$ / mL	100/ mL	10/ml
Dried whole egg, dried egg yolk and dried egg white	$5 \times 10^4$ / g	100/ g	10/g

Note: (i) In places where the *Escherichia coli* count is not specified, it shall comply with good manufacturing practice.

(ii) *Salmonella* and *Staphylococcus* shall be absent.

(20) (a) **“Irradiation”**: means any physical procedure involving the intentional exposure of food to ionizing radiation.

(b) **“Ionizing radiation”**: means all radiations capable of producing ions directly or indirectly in their passage through matter.

(c) **“Irradiated food”**: means articles of food subjected to radiation by:

- (i) Gamma rays from radio nuclides Co60 and Cs137;
- (ii) X-rays generated from radiation apparatus operated at or below an energy level of 5 MeV: and
- (iii) Electrons emitted from radiation apparatus operated at or below and every level of 10

MeV.

(iv) The overall average doses absorbed by a food subjected to treatment shall not exceed 10 kilo gray (kGy).

(21) No person shall import, prepare or advertise for sale or sell any food that has been intentionally exposed to ionizing radiation unless it qualifies "The Pakistan Nuclear Safety and Radiation Protection (Treatment of food by ionizing radiation) Regulations 1996".

(22) No person shall import, prepare or advertise for sale or sell any food that has been evidently exposed to ionizing radiation.

(23) A package of irradiated food shall bear the following declaration and logo namely: "Processed by irradiation method", "Date of irradiation", "License no" and "Purpose of irradiation". Contains acidity in excess of the limit prescribed in regulation (12)".

## **7. Standards of Nature, Substance or Quality of Foods**

An article of food listed in the appendix to these regulations, when not conforming to the standards shown against it, shall be deemed to be not of the nature, substance or quality which it purports to be within the meaning of section 6.

## **PART-III**

In addition to following the labelling requirements and guidelines mentioned as hereunder or elsewhere in these regulations, it is also mandatory for all food manufacturers/marketers to seek the approval of the Punjab Food Authority on the contents of the Promotional Television Commercials prior to broadcasting in order to avoid mislabeling, deception and misbranding.

## **8. Mode of Labelling 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;

(b) shall specify the name of either the packer or the labeller or the manufacturer of the food and complete address (including location) at which such person carries on business; and, in case of imported food, the name of either the packer or the labeller or 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 the food:

(i) A telegraphic or code address or an address at a post office;

**Explanation:** The name of the company or the trade name of the manufacturer, packer, seller on any disc or cap or lid of other device used for sealing any package of food shall not be sufficient; or

(ii) If more than one address appear, the addresses shall be presumed to be that of the manufacturer, packer of the food and the address at which such food is packed or labelled, shall appear at a prominent position and shall also be marked by a line all around as boundary line;

(b) Shall also specify:

(i) In case of food consisting of one ingredient, the appropriate designation of the ingredient; In case of food made of two or more ingredients, the common or usual name, if any, of the food and the appropriate designation of each ingredient, and unless the quality or proportion of each ingredient is specified, the ingredients shall be specified;

(ii) In the order of the proportion in which they were used: the ingredient used in the greatest proportion (by mass) being specified first, provided that;

It shall not be necessary to state that the food contains water; where a food contains an ingredient which is made from two or more constituents, the appropriate designations of these constituents shall be so specified that it shall not be necessary to specify the appropriate designation of that ingredient;

### **Explanation**

For purposes of this clause “appropriate designation” means a name or description which shall indicate to a prospective purchaser the true nature of the ingredient or constituents to which it is applied; and

(c) Shall specify the net weight of the food in the wrapper or container expressed in terms of volumetric measure or net mass/weight or any other measure to indicate the quantity of the content;

### **Explanation**

In case of mass/weight measure, suitable words like 'net' shall be used to describe the manner of measure declaring the net quantity of the commodity contained in the package and, the mass/weight of the wrappers and materials other than commodity shall be excluded.

(2) The label shall also bear:

(a) A distinctive batch number or lot number or code number, either in numerical or alphabets or in combination, representing the batch number or lot number, code number being preceded by the words Batch No. or Batch or Lot No. or Lot or any distinguishing prefix:

Provided that in case of canned food, the batch number may be given at the bottom, or on the lid of the container, but the words “batch no”, given at the bottom or on the lid, shall also appear on the body.

(3) In this regulation:

(a) “Date marking” in relation to a package of food, means a date permanently marked or embossed on the package or on the label on the package of any food signifying the

manufacturing date and the expiry date or the date of minimum durability of the food as the case may be;

(b) "Manufacturing date" in relation to a package of food, means the date on which the commodity is "Manufactured" or "Pre-Packed" in Pakistan;

(c) "Expiry date", in relation to a package of food, means the date after which the food, when kept in accordance with any storage conditions set out at the label of such food, may not retain the quality attributes normally expected by a consumer; and (d) "Date of minimum durability" in relation to a package of food, means the date until which the food, when kept in accordance with any storage conditions set out at the label of such food, will retain the specific qualities for which tacit or express claim has been made.

(4) For purposes of this regulation:

(a) Marking of clear and unmistakable date, which can be correctly interpreted by the consumer, shall alone constitute date marking; however, the marking of date in code form for lot identification shall not constitute valid date marking;

(b) Manufacturing date is the date expressed in day, month and year or in months and years;

(c) Expiry date shall be shown in one of the following forms:

- (i) Expiry date or Exp date: the date expressed in day, month and year or in months and years may be inserted;
- (ii) Use by: the date, expressed in day, month and year or in months and years may be inserted; or
- (iii) Consume by or Consume by the date, expressed in day, months and years may be inserted;
- (iv) Best before or Best before: the date, expressed in day, month and year or in months and year may be inserted: Provided that where only a month of particular year is stated, it shall be presumed that the expiry date or date of minimum durability, as the case may be, shall be by the end of that month.

(5) The foods specified in sub-rule (6), requiring date marking when in a package intended for sale, shall bear or have embossed, on the label or elsewhere on the package, a date marking in accordance with any of the forms specified in sub regulations (3) and (4):

(6) Biscuits, bread, canned food for infants, any cereal based food for infants and children, chocolate and its products, coconut and its products, edible fats and oils other than margarine in hermetically sealed containers, food additives with a shelf life of less than 18 months, infants formula, low energy form of any food which requires date marking, meat product in non-hermetically sealed containers, milk and milk products other than hard cheese, non-carbonated UHT soft drink, nutrient supplement or preparation of nutrient supplement sold as food, pasteurized fruit juice, pasteurized vegetable juice, peanut butter, sauces, bottled water, packaged drinking water and natural mineral water.

(7) Where the validity of the date marking of food to which this regulation applies is dependent upon its storage, direction to that effect shall also be indicated on its label.

(8) No person shall prepare or advertise for sale or sell any food specified in sub-rule (5) unless the package containing such food bears a date marking in any of the forms specified in sub-regulations (3) and (4).

(9) The date marking required by these regulations shall be in capital bold face font of a non-serif character not smaller than 6 point.

(10) The lettering of every word on statement required by these regulations shall appear in a colour that contrasts strongly with its background.

(11) Except as otherwise provided in these regulations, any word, statement, information or direction that is required by these regulations to be specified on the label of any package of food shall be in Urdu or English script: Provided that nothing herein contained shall prevent the use of any other language in addition to the language required under this regulation.

(12) The types used for declaration shall be other than specifically mentioned for dairy products or other food products mentioned in these regulations of such dimension other than for foods mentioned elsewhere in these regulations. That it shall be conspicuous to a reader and shall not be in any case less than 10% in height. The word "synthetic" whenever it is used, shall be of the same size as used for the name of the product: provided that the height of types used in the declaration having an area not greater than 25 square centimeters shall not be less than 10%.

(13) The label shall not contain any reference to the ordinance or any of these regulations or any comment on, or reference to or explanation of any particulars or declaration required by the ordinance or any of these regulations to be included in the label, which directly or by implication, contradicts, qualifies or modifies such particulars or declaration.

(14) Words indicating quality, superiority, or any other words of similar implications shall not appear on the label of any package of food.

(15) No written, pictorial (graphical or original) or other descriptive matter appearing on or attached to, or supplied or displayed with any food shall include any false or misleading statement, word, brand, picture or mark purporting to indicate the nature, stability, quantity, strength, purity, composition, weight, origin, age, effect, or proportion of the food or any ingredient thereof.

(16) There shall be no advertisement of any food, which is misleading or is in contravention of the provisions of the ordinance and the regulations made thereunder.

(17) No written, pictorial, or other descriptive matter appearing on or attached to or supplied or displayed with any food shall include the word "pure" or any other word having identical implications unless the food is free from other added substances or is of the composition, strength and quality required under these regulations.

(18) Unless specifically permitted by these regulations, claims for therapeutic or prophylactic action or word of similar meaning shall not be made on any food.

(19) There shall not appear on the label of any package containing food for sale the words "Recommended by The Medical Profession" or any words which imply or suggest that the food is recommended, prescribed, approved by medical practitioners.

(20) Unless otherwise prescribed in these regulations, no claim or suggestion shall be made that a food is a source of energy unless:

(a) There is stated on the label the quantity of that food to be consumed in one day;



(b) There is stated on the label the following statement; (Here state the weight of food) of this food contains (Here state the weight of protein) energy”;

(c) The amount of the food stated on the label as the quantity to be consumed in one day yields at least 300 kcal.

(21) Unless otherwise prescribed in these regulations, no claim or suggestion shall be made that a food is a source of protein unless:

(a) There is stated on the label the quantity of that food to be consumed in one day;

(b) There is stated on the label the following statement; “(Here state the weight of food) of this food contains (Here state the weight of protein) protein”;

(c) At least 20 percent by weight of the calorie yield of the food is derived from Protein; and

(d) The amount of food stated on the label as the quantity to be consumed in one day contains at least 10 g of protein.

(22) A recipe involving the use of any food or a suggestion or pictorial illustration on how to serve the food shall not be included on the label unless the recipe, suggestion or pictorial illustration is immediately preceded or followed or otherwise closely accompanied by the expression “recipe” or “serving suggestion”, as the case may be, in printed letters of minimum of 1.5 mm in height.

(23) There shall not appear on the label of any pet food any word to indicate, directly or by implication, that the food is also fit or suitable for human consumption.

(24) The use of the word “milk “ alone on any label shall be reserved exclusively for describing milk complying with the standards laid down for milk.

(25) Any built-up product shall be so labelled as to make it clear to the purchaser or consumer that the product is artificial and is not made solely from milk and in no case shall the word “milk” be larger than any other word, descriptive of the product on the label.

(26) There shall be written on the label of a package containing milk or milk products, other than cow or buffalo's milk and the product not prepared from cow or buffalo's milk, in not less than 10 point lettering, the common name of the animal(s) from which milk is sourced.

(27) A picture of an infant or parts of an infant shall not be displayed on the label of a package containing milk or milk product.

(28) There shall be written on the label of a package containing milk or milk product or on the accompanying leaflet a detail instructions or direction for its preparation and storage before and after the package has been opened.

(29) Every dealer who, in the street or other place of public resort, sells or offers or exposes for sale, Ice cream, Malai-ki-baraf, Khoa-ki-baraf, Malai-ki-kulfi, Khoa-ki-kulfi, Ice-candy, Kulfi or Kulfa from a stall or from a cart, borrow or other vehicle or from a basket or other container used without a staff or a vehicle shall have his name and address along with the name and address of the manufacturer, if any, legibly and conspicuously displayed on the stall vehicle or container as the case may be.

(30) Every container for infant formula:

- (a) Shall not contain anything that may discourage breast-feeding;
- (b) Shall contain a conspicuous notice in bold characters in the prescribed height stating the following:

**“Mother's milk is best for your baby and helps in preventing diarrhea and other illnesses”**

- (c) Shall, in addition to the notice specified in clause (b), contain such other message as may be prescribed with respect to any designated product;
- (d) Shall neither use expressions such as “Maternalized” or “Humanized” or equivalent nor shall it contain any comparison with mother's milk;
- (e) Shall not show photographs, drawings or graphics except that the graphics may be used to illustrate the correct method of preparation;
- (f) Shall contain the name and address of manufacturer and of wholesale distributor if a designated product is an imported item and
- (g) Shall, except for bottles, teats, pacifiers and nipple shields, contain appropriate instructions in Urdu and English for the correct preparation in words and easily understood graphics, and indicate the ingredients, composition and analysis of a designated product, the requisite storage conditions, batch number and expiry date, and contain any warning as may be prescribed for the implementation of the protection of breast-feeding and Child Nutrition Ordinance, 2002.

(31) Every container of refined vegetable oil shall bear the following label:

- (1) (a)“ .....Refined (Here insert the name of the oil) Oil”: provided that the container of imported edible oil shall also bear the word, “imported” conjoined with the words “Refined (name of the oil) Oil” in uniform lettering;
- (b) Where the word “polyunsaturated” appears on the label, the percentage of polyunsaturated and saturated fatty acids shall be written on the label of a package containing refined vegetable oil or blended refined vegetable oil.

(32) No person shall sell salt or spices in loose form whether powdered, whole or mixed. Packaging and labeling shall conform to the specification prescribed in these regulations.

(33) Any fruit syrup, fruit juice, fruit squash, fruit beverage or cordial or crush or drink which does not contain the prescribed amount of fruit juice or fruit pulp, shall not be described as a fruit juice, fruit squash, fruit beverage or cordial or crush or drink as the case may be and shall be described as a synthetic product.

(34) Every synthetic product shall be clearly and conspicuously marked on the label as synthetic and no container containing such product shall have a label, whether attached thereto or printed on the wrapper of such container or otherwise, which may lead the consumer into believing that it is a fruit product. Neither the word “Fruit” shall be used in describing such a product nor shall it be sold under the cover of any label which carries picture or any graphical representation of any fruit.

(35) Carbonated water containing no fruit juice or pulp shall not have a label, which leads the consumer into believing that it is a fruit product, hence no pictorial or graphical representation of fruits or vegetable shall be on the label.

(36) Any fruit or vegetable product claimed to be fortified with vitamin “C” shall contain not less than 15% of RDI of ascorbic acid per serving of the product.

(37) The declaration of nutritional information shall be imprinted on all product labels and it shall contain the following information which could be in the following order:

- a) The amount of energy, expressed in kilocalories (kcal) and/or kilojoules (kj), and the number of grams of protein, carbohydrates and fat per 100 grams or per 100 milliliters of the food as sold as well as per 100 milliliters of the food ready for use, when prepared according to the instructions on the label.
- b) The total quantity of each micronutrient (vitamins, minerals etc.) per 100 grams or per 100 milliliters of the food as sold as well as per 100 milliliters of the food ready for use, when prepared according to the instructions on the label.
- c) In addition, the declaration of nutrients in (a) and (b) per 100 kilocalories (or per 100 kilojoules) is permitted.

(38) The label of any food commodity shall not carry any element of deception for the consumers in terms of weight of the product.

(39) Only the commodities/brands registered by the Punjab Food Authority after the sampling, analysis and subsequent registration shall be authorized to use the Punjab Food Authorized Logo on their product labels, whereas, merely holding the premises license (though mandatory) shall not entitle any Food Business Operator to imprint the PFA logo on their products labels. For the product registration, further reference is made to the Punjab Food Authority (Product Registration and Display of PFA logo) Regulations, 2017.

### **8.1 Requirements as to the sale of Pre-Packed Food otherwise than by Retail:**

Every seller who delivers any pre-packed food pursuant to a sale otherwise than by retail shall deliver the food labelled in the manner prescribed in labelling regulations.

### **8.2 Special requirements where presence of Vitamins or Minerals, essential Amino acids, essential fatty acids claimed:**

(1) No preparation in the form of any vitamin or mineral shall be labelled and sold as food if the largest recommended daily dosage of the preparation as stated on it furnishes an amount of vitamin or mineral in accordance with the codex guidelines for vitamins and mineral supplement (CAC/GI 55-2005) of Codex Alimentarius.

(2) Subject to the provisions of labelling regulations, for purposes of these regulations, nutrient supplement includes any mineral, vitamin, essential amino acid or essential fatty acid which, when added either singly or in combination to food, improves or enriches the nutrient contents of food.

(3) No person shall sell any food to which nutrient supplement other than a permitted nutrient supplement has been added.

(4) No person shall sell, or offer for sale, any nutrient supplement other than a permitted nutrient supplement.

(5) Every package containing food to which an essential amino acid or essential fatty acid or both has been added shall be labelled with:

(a) The name of the essential amino acid or essential fatty acid or both, as the case may be, added to the food; and

(b) The amount of the added essential amino acid or essential fatty acid or both, as the case may be, that is contained in a specific quantity to the food.

(6) The minerals, vitamins, essential amino acids and essential fatty acids given in the table below shall be the permitted nutrient supplements.

(7) No label on a package containing any food shall bear a claim that such food is enriched, fortified, vitaminized, supplemented or strengthened or shall contain any statement that may or is likely to convey the meaning that the food is a source of one or more vitamins or minerals or both, unless a reference quantity of the food as given in first column of the table-(ii) given below provides not less than the amount of vitamin or mineral as the case may be, given in relation thereto in column 2 to 17 of the said table, that is derived from the source of nutrient specified in table (I).

(8) Notwithstanding sub-rule (7), the label on a package of food to which an essential amino acid or essential fatty acid or both has been added may bear a claim that the food is enriched or supplemented with essential amino acid or essential fatty acid or both where such claim is made, it shall be expressed on the label in the following form: "This food is (state the quality claim as aforesaid) with (state the amount in milligram) of (state whether essential amino acid, essential fatty acid or both)".

(9) Where any food is claimed to possess the quality as specified in sub-rule

(a) There shall be written on the label of the package containing such food the following words: "This food is (state the quality claimed as in sub-rule (7)) with (state the vitamins or minerals or both and their amount in units as expressed in table (II))".

(10) Every package of nutrient supplement sold, intended for sale, advertised for sale, imported as food shall be labelled with the maximum strength of the vitamin or mineral contained therein stated measurement.

(11) No preparation in the form of any vitamin or mineral shall be labelled and sold as food if the largest recommended daily dosage of the preparation as stated on it furnishes an amount of vitamin or mineral in accordance with the Codex guidelines for vitamins and mineral supplement (CAC/ GI 55-2005) of Codex Alimentarius

The following nutrient supplements are permitted in food:

**Table I**

<b>Vitamin and mineral</b>	Carbonyl iron
Pantothenic acid	Electrolytic iron
Calcium pantothenate	Ferric ammonium citrate
D- pantothenic acid	Ferric caseinate
D- pantothenyl alcohol	Ferric citrate
Panthenol	Ferric gluconate
	Ferric phosphate
	Ferric pyrophosphate
<b>Iron (III)- Casein complex Iron (Fe)</b>	

Ferrous carbonate, stabilized

Ferrous citrate

Ferrous fumarate

Ferrous gluconate

Ferrous lactate

Ferrous succinate

Ferrous sulphate

Hydrogen reduced iron

Sodium ferric pyrophosphate

**Biotin (vitamin H)**

D-biotin

**Folate**

Folacin

Folic acid

**Phosphorus (P)**

Calcium phosphate, (mono, di and tri basic)

Magnesium phosphate (di and tri basic)

Potassium phosphate (mono, and basic)

Sodium phosphate (di basic)

**Inositol Iodine (I)**

Potassium iodate

Potassium iodide

Sodium iodate

Sodium iodide

**Potassium (K)**

Potassium bicarbonate

Potassium carbonate

Potassium chloride

Potassium citrate

Potassium gluconate

Potassium glycerophosphate

Potassium phosphate (mono and di basic)

**Calcium (Ca)**

Calcium carbonate

Calcium chloride

Calcium gluconate

Calcium glycerophosphate

Calcium lactate

Calcium oxide

Calcium phosphate (mono, di- and tri-basic)

Calcium pyrophosphate

Calcium sulphate

**Vitamin B6**

Pyridoxal

Pyridoxamine

Pyridoxine

Pyridoxine hydrochloride

**Vitamin B12**

Cyanocobalamin

Hydroxocobalamin

**Vitamin C**

Ascorbic acid

Ascorbyl-6 palmitate

Calcium ascorbate

Sodium ascorbate

**Vitamin D**

Cholecalciferol cholesterol

Vitamin D2 (ergocalciferol)

Vitamin D3 (cholecalciferol)

**Vitamin E**

D alpha tocopherol

DI alpha tocopherol

D alpha tocopherol acetate

DI alpha tocopherol acetate

D alpha tocopheryl succinate

DI alpha tocopheryl

Succinate tocopherol

**Vitamin K**

Phytylmenaquinone

**Zinc (Zn)**

Zinc acetate

Zinc chloride

Zinc oxide

Zinc Sulphate

**Chloride (Cl)**

Calcium chloride

Choline chloride

Magnesium chloride

Potassium chloride

Sodium chloride

Sodium chloride, iodized

**Choline**

Choline bitartrate

Choline chloride

**Copper (Cu)**

Copper gluconate

Cupric carbonate

Cupric citrate

Cupric sulphate

**Magnesium (Mg)**

Magnesium carbonate

Magnesium chloride

Magnesium citrate

Magnesium oxide

Magnesium phosphate (di basic and tri

basic)

Magnesium sulphate

**Manganese (Mn)**

Manganese carbonate

Manganese chloride

Manganese citrate

Manganese sulphate

**Sodium (Na)**

Sodium ascorbate

Sodium bicarbonate

Sodium carbonate

Sodium chloride

Sodium chloride, iodized

Sodium citrate

Sodium ferric pyrophosphate

Sodium gluconate

Sodium iodate

Sodium iodide

Sodium lactate

Sodium pantothenate

Sodium sodium phosphate (mono,  
di and tri basic)

Sodium sulphate

**Niacin / Nicotinic acid**

Nicotinamide / Niacinamide

**Pro vitamin A**

Beta-carotene

**Riboflavin (vitamin B<sub>2</sub>)**

Riboflavin

**Selenium**

Sodium selenite

**Milk-protein iron complex  
(MPIC)**

Taurine

Thiamine (vitamin B) 1 Thiamine  
chloride hydrochloride

Thiamine hydrochloride

Thiamine mononitrate

**Vitamin A Retinol (vitamin A  
alcohol)**

Retinyl propionate

**Amino acids**

Isoleucine

Leucine

Lysine

Methionine

Phenylalanine

Threonine

Valine

Histidine

Arginine

**Fatty acids**

Alpha-linolenic acid

Arachidonic acid

Docosahexaenoic acid

Eicosatetraenoic acid

Linoleic acid

Linolenic acid

**Nucleotides**

Adenosine 5 – monophosphate

Cytidine 5- monophosphate

Guanosine 5- monophosphate

Inosine 5- monophosphate

Uridine 5- monophosphate

Except as otherwise provided in these regulations, the maximum permitted nutrient supplement shall be governed by Good Manufacturing Practice (GMP)

**Table II (a)**

Sr. No	Food	Reference quantity in 100 milliliters Liquid food including vegetable juice, fruit juice, fruit juice concentrate, fruit syrup, flavoured syrup (diluted according to directions)
1	Vitamin A, Alcohol and Esters, carotenes (IU of vitamin A)	600
2	Vitamin B , Thiamine, Hydrochloride, Thiamine mononitrate 1 (milligrams of thiamine)	0.25
3	Vitamin B , Riboflavin (milligrams of riboflavin)	0.40
4	Vitamin B , pyridoxine, Pyridoxal pyridoxamine (milligrams of riboflavin)	0.50
5	Biotin (micrograms of biotin)	50
6	Pantothenic acid, Pantothenyl alcohol (milligrams of pantothenic acid)	1.75
7	Niacin, Niacinamide, Nicotinic acid, Nicotinamide (milligrams of niacin)	2.8
8	Vitamin C, Ascorbic acid (milligrams of ascorbic acid)	8
9	Vitamin D, Vitamin D , Vitamin D of (IU of vitamin D)* 2 3	100
10	Vitamin E, Alpha-tocopherol (IU of vitamin E)*	5.0
11	Calcium (milligrams of calcium)	180
12	Iodine (micrograms of iodine)	25
13	Iron (milligrams of iron)	2.25

14	Phosphorus (milligrams of phosphorus)	180
15	Folic acid (micrograms of folic acid)	9.6
16	Vitamin B12 (micrograms of Vit B12)	0.4

**Table II (b)**

Sr. No.	Food Reference Quantity 100 milliliters or grams	Bread	Breakfast Cereals (as Purchase)	Condensed Milk sweetened and unsweetened;	Extract of meat or vegetable or yeast	Flour (wheat )	malted milk powder other solid food not specified above excluding	Canned food for infants and Childrens	Cereal based food for infant and children's
1	Vitamin A, Vitamin A alcohol and esters, Carotenes (IU. Of Vitamin A)	500	2000	670	2000	12000	1000	4000	1000
2	Vitamin B <sub>1</sub> , Thiamin, Hydrochloride, Thiamine mono nitrate (milligrams of thiamine )	0.21	0.83	0.82	0.83	5.00	0.42	1.67	0.42
3	Vitamin B <sub>2</sub> , Riboflavin (milligrams of Riboflavin)	0.33	1.33	0.44	1.33	8.00	0.67	2.67	0.67
4	Vitamin B , Pyridoxine, Pyridoxal pyridoxamine (milligrams 6 of riboflavin)	0.42	1.67	0.56	1.67	10.0	0.83	3.33	0.83
5	Biotin (micrograms of biotin)	40	165	55	165	1000	85	335	85
6	Pantothenic acid, Pantothenyl alcohol (milligrams of pantothenic acid)	1.46	5.83	1.94	5.83	35.00	2.92	11.67	2.29
7	Niacin, Niacinamide, Nicotinic acid, Nicotinamide (milligrams of niacin)	2.3	9.2	3.1	9.2	55.00	4.6	18.3	4.6
8	Vitamin C,	6	25	8	25	150	13	50	13



	Ascorbic acid (milligrams of ascorbic acid)								
9	Vitamin D, Vitamin D , Vitamin D of (IU. Of Vitamin D)*	83	333	111	333	2000	167	667	167
10	Vitamin E, Alphatocopher ol (IU. of vitamin E)*	4.2	16.7	5.6	16.7	100.0	8.3	33.3	8.3
11	Calcium (milligrams of calcium)	150	580	190	580	3500	290	1170	290
12	Iodine (micrograms of iodine)	20	85	30	85	500	40	165	40
13	Iron (milligrams of iron)	2.1	0.3	2.8	4.3	50.0	4.2	16.7	4.2
14	Phosphorus (milligrams of phosphorus)	150	580	190	580	3500	290	1170	290
15	Folic acid (micrograms of folic acid)	8	32	11	32	192	16	64	16
16	Vitamin B <sub>12</sub> (micrograms of vitamin B <sub>12</sub> )	0.3	1.2	0.4	1.2	7.2	0.6	2.4	0.6

**Note:** In places where the symbol “\*” appears, it means that the substance may be expressed in milligrams or micrograms using the following conversion factor:

- (a) In column (2) 1 IU Vitamin A is equivalent to 0.3 micrograms vitamin A Alcohol (retinol);
- (b) In column (10) 1 IU Vitamin D is equivalent to 0.025 micrograms Vitamin D2 / Vitamin D3; and
- (c) In column (11) 1 IU Vitamin E is equivalent to 1 micrograms di-Alphatocopherol acetate.”

### 8.3 Exemption from Labelling of Food

The provisions of the labelling Regulations shall not apply to these foods:

- (a) Fruit and vegetables, including fruit and vegetables which have been preserved by freezing or by gas or cold storage or by any other method of storage, but excluding fruit or vegetables which have been canned or bottled or preserved otherwise than as aforesaid;
- (b) Liquid milk (not including prepacked liquid milk);
- (c) Fish of any description, including shell fish and processed fish, but not including canned or bottled fish or any packaged or manufactured product containing fish;
- (d) Any food served by a caterer as a meal or part of a meal in the course of his catering business except for labeling of artificial sweeteners and Allergens.

## 8.4 Defacing of Labels

No person shall remove, add to, alter deface or render illegible any statement upon a label printed on or attached to a wrapper or container in pursuance of these Regulations.

## 8.5 Labelling of Products

(1) Every receptacle containing milk and milk products shall distinctly state on a label in Urdu or English the animal from which the milk is derived and the name in case of prepared milk product given in these standards.

(2) The label in case of glass or earthenware vessel or metallic or plastic ware containing milk shall be a printed label, etched, engraved on the glass or earthenware or painted thereon.

(3) The label in case of a metallic vessel shall be a plate to be fixed on the receptacle.

(4) The provisions of Sub-regulations (1) to (3) of these Regulations shall apply Mutatis mutandis to skimmed milk.

(a) For Infant/Baby Formula

The word of “milk” or “doodh” in Urdu or in English shall not be used on the label of Infant/Baby formula products. Additionally following statements shall be mentioned in Urdu language:

- I. **“Not suitable for Lactose intolerant.”**
- II. **“This Product Contains milk proteins.”**

Moreover, the phrases that should be incorporated on backside of labels/packaging in visible font in Urdu language (Nastaleeq Font) are:

- I. **“Maa do saal tak bachay ko apna doodh pilaey.”**
- II. **“Istemaal say pehlay Hadayat zaroor parhein.”**
- III. **“Packet kholnay kay baad product ko hawaband dibbay main mehfooz karein.”**

(5) Every package containing condensed milk or any milk product shall bear a label upon which is printed one of the following declarations as may be applicable or such other declaration substantially to the like effect as may be allowed by the Government:

(a) In the case of condensed milk (unsweetened):

**Condensed Milk Unsweetened**

This package contains the equivalent of (x)..... liters of milk

(b) In the case of condensed milk (sweetened):

**Condensed Milk Unsweetened**

This package contains the equivalent of (x)..... liters of milk

(c) In the case of condensed skimmed milk (unsweetened):

**Condensed Skimmed Milk Unsweetened**

This package contains the equivalent of (x)..... liters of skimmed milk

(d) In the case of condensed skimmed milk (sweetened):

**Condensed Skimmed Milk Unsweetened**

This package contains the equivalent of (x)..... liters of skimmed milk with added sugar.

(e) In the case of condensed skimmed milk (sweetened and flavored):

**This has been flavored with .....**

“Not to be used for infants below twelve (12) months”

(f) In the case of condensed milk/condensed skimmed milk (unsweetened) sterilized by ultra-high temperature (UHT) treatment:

**This has been sterilized by UHT process**

(g) Every package containing tea whitener liquid shall bear the following label:

**\*-----For making tea/tea whitener liquid**  
**\*\*contains added sugar**

\*here insert the brand or trade name in the equal uniform size (lettering).

\*\*size of font shall be not less than 12 point lettering.

(h) Every package containing tea whitener powder / tea mix powder shall bear the following label:

**\*----- For making tea/tea whitener Powder**  
**\*\*Contains added sugar**

\*here insert the brand or trade name in the equal uniform size (lettering).

**\*\*size of font shall be not less than 12 point lettering.**

- (i) This label shall be 15% of the total package area and it shall be mentioned on both sides of the label, in two colors only

**\*--- Ye Doodh Nahi Hai (Statement in Urdu language)**

**Note:** Tea whiteners shall not be placed for sale alongside the milk and milk product in shops and retail stores.

- (j) In the case of milk powder:

**Milk powder**

**This tin contains the equivalent of (x)..... litres of milk.**

- (k) In the case of milk powder which contain lecithin:

**Milk powder in this package contains lecithin**

- (l) In the case of partly skimmed milk powder:

**Partly skimmed milk powder. This tin contains the equivalent of (x).....litres of partly skimmed milk having ..... Percent milk fat.**

- (m) In the case of skimmed milk powder:

**skimmed milk powder. This tin contains the equivalent of (x).....litres of partly milk having ..... Percent milk fat.**

- (n) In the case of Frozen dessert:

**The word Frozen dessert in both Urdu and English languages on 10% on the front side of the label.**

- (o) In the case of the Infant formula (from birth to six (06) months) in Urdu language (Nastleeq font):

**Yay Paidaish say chhay maa kay bachooun k liye ghazaai formula hai. Yay qudartii doodh nahi hai.**

(P) In the case of the Infant Formula (after 06 months to one year) in Urdu language (Nastleeq font):

**Yay chhay maa say aik saal kay bachooun kay liye  
ghazaai formula hai. Yay qudartii doodh nahi hai.**

(Q) In the case of the Formula (1 year to 3 years) in Urdu language (Nastleeq font):

**Yay aik say teen saal k bachooun kay liye ghazaai  
formula hai. Yay qudartii doodh nahi hai.**

(6) The declaration shall in each case be completed by inserting at (x) the appropriate number in figures' for example, "one and half (1½)", any fraction being expressed as eight quarters of a half, as the case may be [.....].

(7) There shall not be placed on any package containing condensed milk any comment on, explanation of, or reference to, either the statement of equivalence, contained in the prescribed declaration or on the words "machine skimmed" or skimmed" or unsuitable for babies" except instructions as to dilution as follows:

"To make a fluid not below the composition of milk or skimmed milk as the case may be with the contents of this package, add (here insert the number of parts) water by volume to one part by volume of this condensed milk."

(8) Sweetened condensed milk and other similar products which are not suitable for infant feeding shall not contain any instructions for modifying them for infant formula.

(9) Wherever the word "milk" appears on the label of a package of condensed skimmed milk or of part of the description of the contents, it shall be immediately preceded or followed by the word "partly skimmed", as the case may be.

(10) Every package of cheese (hard), surface treated with natamycin, shall bear the following label, namely:

**Surface Treated with Natamycin**

(11) There shall be written on the label of a package containing margarine, "the brand or trade name" immediately followed by the words "margarine contains edible vegetable oil" and a phrase "this is not butter", in both English and Urdu language, in the equal uniform lettering. These words shall form the first line or lines of the label and no other word shall appear in the same line or lines and these words will be surrounded by lines in rectangular form.

**\* .....Margarine**  
**\*\*contains .....Edible Vegetable Oil**

\*(.....) Insert the brand or trade name.

\*\*source of edible vegetable oil.

**\* ..... Ye Makhan Nahi Hai (In Urdu)**

(12) Every package containing an admixture of refined vegetable oils/ banaspati/ vanaspati shall carry the following label namely:-

**This blended refined edible vegetable oil contains an admixture of:**

(i) \* .....%by weight.

(ii) \* .....% by weight.

(\*name of refined vegetable oils)

Date of packing.....

(13) A package containing tea with added flavour shall bear the following label, namely:

**Flavoured Tea**

(14)  
(a) Any package containing coffee and chicory mixture shall not be labelled “French Coffee” or any other misleading expression.

(b) Any package containing coffee and chicory mixture shall have affixed to it a label upon which shall be printed the following declaration.

**Coffee blended with chicory**

**This mixture contains:**

**Coffee \_\_\_\_percent.**

**Chicory \_\_\_\_percent.**

(15) Every container or package of flavour emulsion and flavour paste meant for use in carbonated or non-carbonated beverages shall carry the following declaration, in addition to the instruction for dilution, namely:

**“Flavour Emulsion And Flavour Paste For Use In Carbonated Or Non-Carbonated Beverages Only”**

(16) Every package containing Atta/Maida treated with improver or bleaching agents shall carry the following label, namely:

**(a) Wheat flour treated with improver/  
Bleaching agents.**

**(b) To be used by bakeries only**

(17) Every package of dried glucose syrup, containing sulphur dioxide exceeding 40ppm, shall bear the following

**Dried glucose syrup**  
**For use in sugar confectionery only**

(18) All products of Chewing Tobacco and Niswar shall carry following warning labeling on 50% of the area of their label:

**"chewing of tobacco is injurious to health"**  
**A Pictorial Depiction of Health Hazards Associated**

(19) Every package of food which is permitted to contain a non nutritive sweetener, mentioned in regulation 4.6, shall carry the following label, namely:

**This ....(name of food ) contains..... (name of non-nutritive sweetener).**  
**In case if artificial non-nutritive sweeteners are used, the label shall mention the following:**  
**1. Not recommended for children.**  
**2. Not for phenylketonurics (if aspartame is added)**

(20) Every package of Aspartame (methyl ester), Acesulfame-K and Saccharin sodium marketed as table top sweetener and every advertisement for such table top sweetener shall carry the following label, namely:

**Contains.....(name of artificial sweetener)**  
**Not recommended for children**

Provided that the package of Aspartame (methyl ester) marketed as table top sweetener and every advertisement for such table top sweetener shall also carry the following label, namely:

**Not for "phenylketoneurics"**

(21) The label of any food/drink, in which any non-nutritive sweetener (natural or artificial) has been used shall represent the category name on the front of the label covering 15% of the area of the total area as:

**Reduced Calorie Food/Drink**

(22) Every package of pan masala wherein betel nut has been used shall carry on 50% of the label and advertisement relating thereto shall also carry the following warning, namely:

**“Chewing of pan masala is injurious to health”**

**A Pictorial Depiction of Health Hazards Associated**

(23) Every package of mixed masala fried in oil shall bear the following label:

**Mixed masala (fried)**

**This masala has been Fried in .....**

**(name of the edible oil used)**

(24) Every package of drinking water shall carry the following declaration in capital letters having the size of each letter as prescribed in labelling regulations.

**Packaged/Bottled Drinking Water**

One time usable plastic/pet bottles shall carry the following declaration:

**Crush the bottle after use (Also in urdu translation)**

(25) Every package of mineral water shall carry the following declaration in capital letters having the size of each letter as prescribed in labelling regulations

**Natural Mineral Water**

(26) Every package of synthetic food color preparation and mixture shall bear a label upon which is printed a declaration giving the percentage of total dye content.

(27) Every advertisement for and/or a package of food containing added monosodium glutamate shall carry the following declaration, namely:

**This package of .....(name of the food) contains added  
Monosodium glutamate on 15% of the label:**

**Product is not for children under 12 months of age**

**The amount of monosodium glutamate added in the  
product must also be mentioned in the ingredient list**



If a claim has to be made for a product to be monosodium glutamate free, it can be made only by mentioning on the label “No added monosodium glutamate.”

**Note:** *Earlier it was allowed as per Punjab Pure Food Regulations, 2017 with a limitation that it was not allowed in fifty two (52) categories of food, whereas, from the date of enactment of these Regulations, any use of Monosodium Glutamate is banned for sale and for utilization in any food whatsoever.*

(28) Every container or package of edible common salt or iodized salt containing permitted anticaking agent shall bear the following label, namely:

<p><b>Edible common salt or iodized salt Contains permitted anticaking agent</b></p> <p>*strike out whichever is not applicable</p>
---

(29) Every package of irradiated food shall bear the following declaration and logo, namely:

<p><b>Processed by irradiation method /</b> <b>Date of irradiation /</b> <b>LOGO</b> Licence no/ Purpose of irradiation</p>
---

(30) Caffeine Labelling

Every package of food having added caffeine shall carry the following label, namely:

<p><b>Contains Caffeine ____ ppm (should only be mentioned in ppm)</b></p>
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(31) Labelling of Genetically Modified Organisms containing foods

All foods containing any genetically modified ingredient more than 1 per cent of total weight/volume shall mention a statement “containing GMO”.

(32) Prerequisites of Organic Food Labelling

Any food claimed as organic food shall conform to the minimum organic standards i.e. 95% of the raw material must come from organic sources and must be duly substantiated by necessary documentation as per Codex.

(33) Claims for Fortifications

No claims of any fortification of any nutrient can be made on label unless it contains more than 15 per cent of recommended dietary allowance (RDA) per serving as per Codex, if not specified elsewhere in these regulations.

#### (34) Labelling Requirements for Alcoholic products

All the alcoholic products shall not be sold to any muslim and the label shall contain a symbol of not Halal. It shall also include a statement on label "Consumption of alcohol may cause damage to liver, kidneys and lungs".

#### (35) Gluten free labelling pre-requisites

No claim such as "gluten free" can be made on label unless the product contains less than 20 mg/Kg of gluten contents.

#### (36) Labelling of Bulk Packaging

All the bulk packaging (e.g. sacks or similar packaging) shall also be labelled with following information.

- a. Name of manufacturer/supplier.
- b. Name of the food (Description of true nature of the food)
- c. Address of manufacturer/supplier.
- d. Date of production
- e. Expiry date
- f. Net weight
- g. List of ingredients

#### (37) Labeling of Imported Food commodities

In the case of food commodities which are imported from other countries, in addition to the labelling requirements mentioned in the part iii 8.5 (35) following labelling requirement are mandatory:

- a. Labelling Language (Urdu mandatory; English optional)
- b. Importer's Name and Address
- c. Country of origin

(Importing company may use stickers to furnish the required information)

#### (38) Lingual obligation for statements on the label

Any statements mentioning the true product declaration, information for consumers, precautionary labelling and warning statements shall be in both Urdu and English languages, conforming to the legibility requirements on the label of all the products.

### **PART-IV**

#### **9. Manner of manufacture, sale or custody for sale.**

(1) Every utensil or vessel made of food grade stainless steel (314 l/316 l) used for manufacturing, preparing or keeping any articles of food or ingredient of food intended for sale, shall be kept at all times in good order and repair and in a clean and good sanitary condition, and shall not be used for any other purpose.

(2) No person shall use for manufacturing, preparing or keeping any article of food or ingredient of food, intended for sale, any utensil or vessel which is imperfectly enameled or imperfectly tinned or which is made of such material or is in such state as is likely to injure or affect the quality of such food or render it noxious.

(3) Every utensil or vessel containing any article of food or ingredient of food intended for sale shall at all times be either provided with a tight fitting cover or kept closed or covered by a properly fitting lid or by a

close fitting cover of gauze, net or other material of a texture sufficiently fine to protect the article of food or ingredient of food completely from dirt, flies and other insects.

(4) No utensil or vessel for the manufacture or preparation of, or containing any article of food or ingredient of food intended for sale shall be kept in any place in which such utensil or vessel is likely, by reason of impure air or dust or any offensive noxious or deleterious gas or substance or any noxious or injurious emanation, exhalation or effluvium, to be contaminated and thereby render such food noxious.

(5) All packages, wrappers or containers, containing food meant for sale shall be of such material as will not contaminate the food and render it noxious.

(6) The food prepared in a utensil or container having one or more of the following defects or made of the following materials or metals is used in the preparation of food, shall be deemed to render it unfit for human consumption:

(a) Containers which are rusty;

(b) Enameled containers which have become chipped and rusty;

(c) Copper or brass containers which are not properly tinned;

(d) Containers made of aluminum not conforming in chemical composition to limits prescribed by the Government;

(e) Containers made of plastic materials not conforming to the limits prescribed by the government, used as appliances or receptacles for packing or storing, whether partly or wholly, food articles; and

(f) Second hand tin containers used for packaging of edible Fats and Oils.

(7) All vehicles, carriers and other devices, whether power or hand driven, used for inter-factory movement or transmission or ex-factory transportation of food shall be kept at all times in good order and repairs and in a clean sanitary condition.

(8) Except as otherwise provided in these regulations, no person shall import, manufacture, advertise for sale or sell, or use or cause or permit to be used in the preparation packaging, storage, delivery or exposure of food for sale, any package, appliance, container or vessel which yields or could yield to its contents toxic, injurious or tainting substance or which contributes to the deterioration of the food.

(9) No person shall import, manufacture, advertise for sale or sell any package, appliance, container or vessel made of enamel or glazed earthenware that is intended for use in the preparation, packaging, storage, delivery or exposure of food for sale and is either capable of imparting lead, antimony, arsenic, cadmium or any other toxic substance to any food prepared, packed, stored, delivered or exposed in it or is not resistant to acid unless the package, appliance, container or vessel satisfies the test described in these regulations.

(10) No person shall prepare, manufacture or advertise for sale or sell or use in the preparation, packaging, storage, delivery or exposure of food for sale, any rigid or semi-rigid package, appliance, container or vessel made of Polyvinyl chloride which contains more than 1 mg/kg of Vinyl chloride monomer.

(11) No person shall prepare or advertise for sale or sell any food in any rigid or semi-rigid package, appliance, container or vessel made of polyvinyl chloride if the food contains more than 0.05 mg/kg of Vinyl chloride monomer.

(12) No person shall use or cause or permit to be used, in the preparation, packaging, storage, delivery or exposure for sale of any food, any package, appliance, container or vessel that had been used or intended to be used for any non-food product.

(13) No person shall use or permit to be used in the preparation packing delivery are exposure for sale;

(a) Of any sugar, flour, any sack that has previously been used for any purpose;

(b) Of any edible fat or edible oil, any bottle or metal container that has previously been used for any purpose;

(c) Of any food, other than packaged in an extra wrapper, any plastic bottle that has previously been used for any purpose;

(14) A polycarbonate container of not less than 18.95 liter/5gallon in size that has previously been used for natural mineral water/ bottled water may be used again for the same purpose provided it is washed and it does not contain any residual material.

(15) No person shall use or cause or permitted to be used in the preparation, packaging, storage, delivery or exposure for sale:

(a) Of any milk, soft drink, beverage, any glass bottle that has previously been used for another food;

(b) Of any vegetable, fish or fruit, any box or crate that has previously been used for another food.

(16) Any glass bottle that has previously been used for beverage may again be used for the same purpose after standard washing procedure. It should be free from any residue left after washing.

(17) Any box or crate that has previously been used for storage of industrial chemicals may not be used in the preparation, packaging and storage of any food.

(18) All stalls/shops which sell juices and drinks and other food items as loose shall serve to the consumer in food grade disposable container/glass.

(19) For purposes of this regulation, where a package, appliance, container or vessel containing food bears any mark or label belonging to another food, it shall be presumed that such package, appliance, container or vessel had been used for that particular food as shown by such mark or label.

(20) Any prepared food, ready for direct consumption on retail premises, which is offered, exposed or kept for sale in such manner at the said premises that the customer may himself select the food, shall be kept in properly covered metal or glass or glazed ware receptacles or which in turn shall be kept on a suitable shelf or any other device provided for the purpose in close proximity not too loose and such shelf or device shall be maintained in a clean condition.

(21) For purposes of sub-rule (20) of these regulations, a ticket or notice which indicates any additive used in the food to perform the function of any antioxidant, artificial sweeteners, colour, flavour enhancer or preservative shall be displayed near the food.

### **9.1. Special provision for milk and dairy produce.**

No person shall offer or keep in possession for sale or deliver for sale or supply to any person: (a) Impure or unwholesome milk or milk drawn from animals affected with any disease of livestock whether contagious, infectious or otherwise capable of causing the milk to become unwholesome; milk drawn from animals within thirty days before or ten days after parturition or for butter, curd or cheese-making; and

(b) Milk drawn from animals shall be within the maximum limits prescribed by the Codex, if not specified in these regulations, for veterinary drug residues like estrogen residue, and others.

## **9.2. Mandatory medical Screening of food handlers/workers.**

(1) No person shall allow any person for work in any food related business whose medical fitness certificate is not available:

(a) To milk animals;

(b) To handle any vessel used for the reception of milk intended for sale;

(c) To take part or assist in the business of dairyman, cow or buffalo keeper or vendor of milk;

(d) To be employed in a dairy; and

(e) To be employed in hotels, restaurants, factories and food business, with respect to offering, exposing prepared food ready for human consumption, preparing for sale or presenting, labelling or wrapping for the purpose of sale.

(2) Any person engaged in food business as specified in sub-rule (1) shall furnish medical fitness certificate of his staff including himself, issued by the medical officer of the civil hospital/ Punjab Food Authority itself or any of its approved pathological/medical screening laboratories of the respective area in such form as may be prescribed, and shall be renewed annually.

## **9.3. Special conditions for manufacture of Pasteurized, Sterilized or UHT milk.**

(1) No person shall designate milk or milk products as “Pasteurized” unless he complies with the following conditions.

(a) The milk has been retained at a temperature of not less than 162°F (72°C) for at least 15 seconds continuously and has been cooled immediately to a temperature of not more than 40° F( 4°C) in a plant approved for the purpose;

(b) The milk has been retained at such temperature for such period as specified by the government by notification for a plant-approved for the purpose;

(c) The milk shows efficient pasteurization as evidenced by satisfactory negative phosphates test; and

(d) The milk does not show a coliform count exceeding 10 per milliliter at any time after pasteurization and before delivery to the consumer.

(2) No person shall designate milk as “sterilized/UHT” unless he complies with the following conditions:

(a) The milk has been filtered or clarified and homogenized;

(b) The milk has been heated to and maintained at such temperature, not less than 212°F (100°C) for a period as to ensure that it will comply with prescribed turbidity test;

(c) The milk has been heated as above in such a manner that on completion of the treatment, the receptacle was hermetically sealed;

(d) The processing has been done in plant approved for the purpose in licensed premises; and

(e) The milk shows efficient sterilization at any time after processing before delivery to the consumer as evidenced by a satisfactory turbidity test.

(3) For purposes of carrying into effect the provisions of sub-regulations (1) and (2), samples may be taken at any time and from any place subject to the following conditions:

- (a) Sampling shall be done by a Food Safety Officers/ Assistant Food Safety Officers;
- (b) When the milk is in containers not exceeding one kilogram in capacity, the sample shall consist of one such container which shall be delivered intact to the Public Analyst;
- (c) When the milk is in containers exceeding one kilogram in capacity it shall be thoroughly stirred before sampling, and the sample shall be taken from well below the surface of the milk;
- (d) The instruments used for stirring and sampling shall be sterile;
- (e) The sample shall be poured into a sterile bottle, thereupon the stopper shall immediately be placed. The part of the stopper, which may come into contact with the milk, shall be sterile;
- (f) The bottle or other container containing the sample shall be transferred forthwith to an insulated container for transport to the Public Analyst; and
- (g) A sample shall be transported to the testing laboratory with the least possible delay under storage condition and shall be delivered to the public analyst on the day on which it is taken. If the sample does not arrive on the same day it shall be discarded.

#### **9.4. Conditions for approval Pasteurization / Sterilization / UHT plants.**

No plant shall be approved for purposes of pasteurization/sterilization/UHT, unless it complies with the following conditions in addition to any other conditions with regard to the testing of pasteurization/sterilization /UHT plant equipment that may be imposed in writing:

I. All types of pasteurizer/sterilizer/ UHT plant shall have:

- (a) Indicating thermometer of approved accuracy;
- (b) Recording thermometer of approved temperature and time accuracy;
- (c) Phosphates test kit for determining pasteurization, turbidity test apparatus and chemicals for sterilization efficiency in field and plant laboratory;
- (d) Air space thermometer.
- (e) Leak-protector inlet/outlet and diversion valves;
- (f) Bottles washers; and
- (g) Plant sanitization equipment.

II. All continuous flow pasteurizers/ sterilizers/ UHT plant shall have:

- (a) Indicating thermometers on pipelines;
- (b) Milk flow stop controllers and diversion lines;
- (c) Automatic holder heaters;
- (d) Recorder controllers;
- (e) Automatic vat or pocket holders;

- (f) Continuous flow holder;
- (g) Back flow prevention devices; and
- (h) Automatic time/temperature/holding recorder.

III. All types of pasteurization/ sterilization/ UHT plants shall:

- (a) Use "Sanitary Milk Piping" for conducting milk, and the piping shall be easy to clean;
- (b) Use multi-use containers and equipment made of non-corrodible, non-toxic material and so located as to be easily cleaned;
- (c) Preserve recordings of automatic recording equipment for at least six months;
- (d) Maintain vehicles for the transportation of milk;
- (e) Maintain well equipped and adequately staffed laboratories for the daily examination of milk; and
- (f) Undertake to exclude the milk supply in respect of which reasonable cause exists to suspect the possibility of infection or contamination.
- (g) The plant and utensils used should be made up of stainless steel food grade material

**10. Mode of marking of packages containing Banaspati, Refined Vegetable Oil, Refined Blended Vegetable Oil, Margarine or Fat spread, Animal Fat (Halal).**

(1) Every unopened package containing Banaspati, Refined Vegetable Oil, Refined Blended Vegetable Oil, Margarine or Fat spread, Animal fat exposed or transported for sale shall bear the words "Banaspati", "Refined vegetable oil/Refined blended vegetable oil", "Margarine", "Fat spread", or "Animal fat", as the case may be, distinctly marked in English and Urdu.

(2) Every package in which banspati, refined vegetable oil/refined blended vegetable oil, margarine or fat spread, animal fat is exposed for sale by retail, shall have painted or otherwise durably marked thereon in block types letters upon a light colour ground in Urdu and English, the words Banaspati, Refined Vegetable Oil/Refined Blended Vegetable Oil, Margarine, Fat spread or Animal fat, as the case may be.

(3) The space occupied by the white ground shall not measure less than the dimensions shown below:

Package weight	15kg	4"x3"
Package weight	5kg	3"x2"
Package weight	2.5 kg	2"x1"

And below

(3) No person selling Banaspati, Refined Vegetable Oil, Refined Blended Vegetable Oil, Margarine, Fat spread or Animal fat shall deliver to a customer a portion of Banaspati, Refined Vegetable Oil/ Refined Blended Vegetable Oil, Margarine, Fat spread or Animal fat in any package, unless the word Banspati, Refined Vegetable Oil/ Refined Blended Vegetable Oil, Margarine, Fat spread or Animal fat, as the case may be, is clearly printed on the outside of such package in block types letters upon a light coloured ground in Urdu or English.

### **10.1. Conditions under which Banaspati, Refined Vegetable Oil/Refined Blended Vegetable Oil, Margarine or Fat Spread, Animal Fat (Halal), may be advertised.**

(1) Every advertisement and every price or trade list advertising for sale banaspati, refined vegetable oil/refined blended vegetable oil, margarine, fat spread or animal fat or any article of food containing or prepared with banaspati, refined vegetable oil/refined blended vegetable oil, margarine, fat spread or animal fat shall specifically describe such food as banaspati, refined vegetable oil/refined blended vegetable oil, margarine, fat spread or animal fat as the case may be.

(2) No such advertisement or price or trade list shall contain any words or description implying that the food is other than banaspati, refined vegetable oil/refined blended vegetable oil, margarine, fat spread or animal fat or has not been prepared with banaspati, refined vegetable oil/refined blended vegetable oil, margarine, fat spread or animal fat.

(3) Every person selling or manufacturing banaspati, refined vegetable oil/refined blended vegetable oil, margarine, fat spread or animal fat or any food containing or prepared with banaspati, refined vegetable oil/refined blended vegetable oil, margarine, fat spread or animal fat shall display in a conspicuous position on the premises in which he sells or manufactures such banaspati, refined vegetable oil/refined blended vegetable oil, margarine, fat spread or animal fat or such food, a sign board showing that banaspati, refined vegetable oil/refined blended vegetable oil, margarine, fat spread or animal fat as the case may be, is being sold or manufactured therein.

(4) Margarine, fat spread and butter shall only be sold in a sealed package bearing the label requirements as provided under the regulations.

(5) The use of such expressions as “Vegetable Ghee”, “Khalis Banaspati Ghee”, “Artificial Ghee”, “Natural/Pure Banaspati” or “Velayati Ghee” is prohibited.

### **11. Prohibition and Restriction on Sale of Food Articles.**

**11.1.** Following items/products shall be strictly prohibited for manufacturing, selling, storage, marketing and purchasing:

#### **Table of Strictly Prohibited Substances**

<b>Sr. No.</b>	<b>Banned Commodities</b>
1.	Monosodium Glutamate
2.	Chooran
3.	Gutka
4.	Shellac E 904 (color)
5.	Carmine E-120 (color)
6.	Partially hydrogenated vegetable oil as a product and as an ingredient thereof in any food from July 2020 onwards.
7.	Dairy drink from 05-12-2018 onwards.
8.	The use Waste oil and rendered animal fat for any purpose other than Biodiesel Production is banned.
9.	Calcium Carbide as a ripening agent
10.	Sale of loose spices from January, 2019
11.	Sale of loose oils and fats
12.	All Red Category items/commodities for sale in the educational institutions.
13.	Rotten/Hatchery eggs banned for storage and consumption and any usage as food ingredient and raw material thereof.



**11.2.** Following items/products shall be restricted by stringent precautionary/warning labeling regime:

**Table of Restricted Substances**

Sr. No.	Restricted Commodities
1.	Chewing Tobacco
2.	Niswar
3.	Betel Nut

**11.3 Other Prohibitions of sale**

(1) Save as otherwise provided in these regulations, no person shall:

(a) Irradiate for sale, store for sale or transport for sale irradiated food; and

(b) Manufacture, sell, stock, distribute or exhibit for sale any article of food, including prepared food or ready to serve, irradiated food except under a licence: provided that no person shall manufacture, sell, stock, distribute or exhibit for sale any article of food which has been subjected to the treatment of irradiation except under a licence from Pakistan Atomic Energy Commission.

(2) No person shall offer for sale or sell under any description, fruits which have been artificially ripened by use of Acetylene gas, commonly known as Calcium Carbide gas.

(3) Reheating of ready to serve food is not permissible more than once.

(4) No person shall sell, offer, expose for sale or have in his premises for the purpose of sale under any description food articles, which have been coated with mineral oil.

(5) No person shall store, expose for sale or permit the sale of any insecticide in the same premises where articles of food are stored, manufactured or exposed for sale. However in retail shops there should be a designated area, locked and covered at least 5 ft away from food.

(6) *Carvia callosa* and Honey Dew shall only be sold in a pre-packed container, which is correctly labelled to indicate its true character, composition (in percent) with respect to its contents, after the approval of the Punjab Food Authority.

(7) An infant food or other food items, the standard of which is not prescribed in these regulations shall be prepared, manufactured, kept or stored for sale, or sold or offered to sell only on approval of such article of food by the Government.

(8) The package and/or label and/or the advertisement of infant food shall not use the word "Full Protein Food", "Complete Food" or "Health Food", or similar expression.

(9) No sale of Gutka is allowed. (a) Matteri/Kesari/ Chikling Vetch (*Lathyrus sativus*) and its products shall not be sold or offered or exposed for the purpose of sale. Also the injudicious sale of Niswar shall be restricted.

(10) There shall be no televised advertising for any product which is directed to, or seen by, audiences composed of significant proportion of children who are too young to understand the selling purpose of or otherwise comprehend to evaluate advertising.

(11) There shall be no televised advertising for sugared food products, which is directed to, or seen by audiences composed of significant proportion of elder children, the consumption of such products poses the most serious dental health risks.

(12) No person shall import any article of food, which is prohibited by the law of the country of origin from which it is exported. No product shall be imported from any other country that is prohibited by the local law.

(13) No person shall import, export, prepare, manufacture, keep or store for sale any food unless the regulations providing for the mode of its manufacture, processing or preparation, packaging, labeling, consignment, delivery, standard of quality, or bill of containers have been complied with; the importation of any food which does not comply with the provisions of this regulation is prohibited.

(14) No food shall be sold or offered for sale which is specifically labelled as "Export Goods", "Export Quality", any word conjoined with the word "Export", or/and similar expression.

#### **11.4 Food items in Educational Institutions**

It shall be mandatory for the FBOs operating canteens/cafeterias in the Educational Institutions to operate in conformance to the Punjab Educational Institutions Food Standards Regulations, 2017.

#### **11.5 Prohibition on sale of Non-registered pre-packaged food items/commodities**

All pre-packaged food items/commodities that are not registered with the Punjab Food Authority shall not be allowed for production, sale, storage and consumption in manufacturing of other food items across the jurisdiction of the Punjab Food Authority. For the product registration, further reference is made to the Punjab Food Authority (Product Registration and Display of PFA logo) Regulations, 2017.

### **12. Offences by companies**

(1) Where an offence under the ordinance or these regulations has been committed by a company, the person, if any, who has been nominated under the regulations to be in-charge of and responsible to the company for the conduct of the business of the company (hereafter in the regulations to be referred as the "person responsible") shall be guilty of the offence and shall be liable to be proceeded against and punished accordingly.

(2) Where no person has been so nominated, every person who at the time the offence was committed was in-charge of, and was responsible to, the company for the conduct of the business of the company shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly:

(3) Nothing in this regulation shall render any such person liable to any punishment provided in the regulations if he proves that the offence was committed without his knowledge and that he exercised all due diligence to prevent the commission of the offence.

(4) A company may, by order in writing, authorize any of its directors or managers (such manager being employed mainly in a managerial or supervisory capacity) to exercise all such powers and take all such steps as may be necessary or expedient to prevent the commission by the company of any offence under the ordinance and these regulations and may give notice to the Punjab Food Authority, in such form and in such manner (form no.11) that it has nominated such director or manager as the person responsible, along with the written consent of such director or manager for being so nominated.

#### **Explanation**

Where a company has different establishments or branches or different units in any establishment or branch, different persons may be nominated in relation to different establishments or branches or units and

the person nominated in relation to any establishment, branch or unit shall be deemed to be the person responsible in respect of such establishment, branch or unit.

(5) The person nominated under sub-rule (4) shall continue to be the responsible person, until:

(a) Further notice cancelling such nomination is received from the company by the Punjab Food Authority; or

(b) He ceases to be a director or, as the case may be, manager of the company; or

(c) He makes a request in writing to the Punjab Food Authority under intimation to the company, to cancel the nomination, which request shall be complied with by the Punjab Food Authority:

(i) Provided that where such person ceases to be director or, as the case may be, manager of the company, he shall intimate the fact to the Punjab Food Authority;

(ii) Provided further that the Punjab Food Authority shall not cancel such nomination with effect from a date earlier than the date on which the intimation is received.

(6) Notwithstanding anything contained in the foregoing sub-regulations, where an offence under the ordinance and the regulations framed thereunder has been committed by a company and it is proved that the offence was committed with the consent or connivance of, or is attributable to, any neglect on the part of, any director, manager, secretary or other officer of the company, (not being a person nominated under sub-rule) such director, manager, secretary or other officer shall also be deemed to be guilty of that offence and shall be liable to be proceeded against and punished with accordingly.

**Explanation.** For purposes of this regulation:

(a) "Company" means anybody corporate and includes a firm or other association of persons;

(b) "Director" in relation to a firm, means a partner in the firm; and

(c) "Manager" in relation to a company engaged in hotel industry, includes the person in charge of the catering department of any hotel managed or run by it.

## **PART- V**

### **13. Licensing of food trades businesses and premises.**

(1) For purposes of licensing, the premises shall be divided into following categories:

(a) Premises for the business of wholesale dealers in margarine, banaspati, fat spreads, animal fat (Halal), ghee, fish oil, edible oils, spices, confectionary, cereal products, soft drinks aerated water and cold storages;

(b) Creameries, dairies, dairy farms, bakeries, hotels, eating houses and other small scale food manufacturing concerns

(c) Premises for the manufacture or preparation of

(i) Pasteurized /sterilized /UHT milk, milk powder, condensed and evaporated milk, cheese and any other milk products

(ii) Edible oils, margarine and banaspati

(iii) Biscuits

- (iv) Canned food
- (v) Alcoholic drinks and beverages
- (vi) Bottling factories
- (vii) Sugar factories
- (viii) Cereal products; and
- (ix) Natural mineral water/bottled drinking water

**13.1 License Fee for Certain Categories of Food Businesses (In addition to these rates Bank charges will apply)**

Category	Premises Name	License Fee (Rs.)	GST (16 %)	Total License Fee (Rs.)
A	Premises carrying out business of margarine, banaspati, fat spreads, animal fat (Halal), ghee, fish oil, edible oil, spices, cereal products, soft drinks, aerated water, fruits and vegetables, food additives & ingredients and cold storages etc.			
i	Mega mart/whole sale dealer/ware houses/ distributor	10,000	1600	11,600
ii	Departmental store/ large kiriyana store	5,000	800	5800
iii	Small kiriyana store, pan shop	1,000	160	1160
iv	Fruit and vegetable shops	500	80	580
B	Creameries, dairies, dairy farms, bakers, hotels, eating houses and others mall-scale food manufacturing concerns			
i	Hotels and restaurants located at prominent places including fine dining and ambiance hotels and restaurants. Fast food & restaurant chains	20,000	3200	23,200
ii	Hotel & restaurant, fast food points, marriage/ banquet hall/ marquee with or without kitchen and caterers, fish corner, canteens and mess, creameries, confectionary (sweets), & small scale manufacturing units.	10,000	1600	11,600
iii	1.Bakery outlets & dairy shop chain 2.Bakery & dairy shop without chain	5,000 1000	800 160	5800 1160
iv	Tandoor without hotel ( large, medium, small) local cart, tea stall, dhaba, shawarma point, Dahi bhallay etc.	500	80	580
v	Atta grinding chakki	1,000	160	1,160

C	Food manufacturing units/Others			
i	Registration fee for selling of food products in districts of Punjab	10,000	1,600	11,600
ii	Contract manufacturing	25,000	4,000	29,000
iii	Manufacturing units of food grade packaging, labeling and utensils and others (*)	50,000	8,000	58,000
iv	Slaughter houses	20,000	3,200	23,200
v	Meat (poultry, beef, mutton and fish shops)	5,000	800	58,00

(\*): Others include Biodiesel producing plants and food packaging manufacturing industries.

(2) For purpose of Categories (A) and (B) and (C) in sub-rule (1), on the advice inspection report of the Food Safety Officer. The Punjab Food Authority may issue license to food business operator including Cantonment Areas.

### 13.2 Procedure of licensing:

The Punjab Food Authority shall license the manufactures/ food business operators that may be valid for a maximum of 5 years and/or shall be renewed each year. The procedure for e- license will be as follows.

- (a) Manufacturers will download mobile application and apply online for licenses
  - (b) A message will be received by Food Safety Officer, upon visiting the premises The Food Safety officer will apprise the applicant about license fee to be deposited in prescribed bank.
  - (c) Applicant is bound to maintain a record such as copy of National Identity Card (CNIC), site plan, medical certificates for employees.
  - (d) Upon completion of all formalities, smart cards will be issued and posted to the applicants.
  - (e) A duplicate license may be issued on payment of rupees five hundred if it is proved to the satisfaction of the Punjab Food Authority that the original license was lost or damaged in a bona fide manner.
- (1) Any person who intends to use any place for the purpose for which a license is required under Section (11) shall apply in writing/electronic application (e-licensing) to the licensing authority concerned stating the purpose for which the place is intended to be used and shall submit block plans in triplicate showing:
- (a) The actual area proposed to be used; and
  - (b) The location at which various operations connected therewith shall be carried on.
  - (c) Medical certificate of the employees.
- (2) On receipt of an application and plans, the Food Safety Officer concerned, as the case may be, shall inspect the said place and may recommend the issue of the requisite license form, as the case may be, if the said place conforms to the requirements as laid down in sub-rule (13) for the sale or manufacture of food.
- (3) A license may at any time be cancelled or suspended if any of the restrictions or conditions laid down therein are infringed or evaded by the licensee, or if the said person is previously convicted of infringement of any of the provisions of the these regulations.

(4) When any license is cancelled, or suspended or when the period for which it was granted has expired, the former licensee shall, for purposes of the regulations, be deemed to be without such license until the order cancelling or suspending the license is revoked or the license is renewed.

(5) An application for the grant or renewal of a license shall be accompanied by a fee mentioned in sub-rule (1) of regulation (30).

(6) Every license for purposes of the regulations shall be displayed at a prominent place within the licensed premises and shall be open to inspection by Food Safety Officers/ Assistant Food Safety Officers or any person authorized by the Punjab Food Authority.

(7) For purposes of these regulations, any act or omission by an owner or occupier of a premises in respect of which a license has been granted, or by the manager, agent, employee or other person engaged in, or connected with, the trade or business carried on in such premises shall be deemed to be an act or omission by the licensee.

(8) Any person whose application for a license has been rejected by the Punjab Food Authority may file an appeal to the appellate forum on payment of rupees one thousand as fee.

(9) The appellate forum, after making such inquiries as it deems necessary, may either reject the appeal or direct the Licensing Authority to issue the license on such conditions and limitations as are necessary or deemed fit.

(10) No application for the renewal of any license that has been cancelled shall be entertained until after the lapse of a period of not less than three weeks from the date of cancellation.

(11) The Punjab Food Authority shall maintain a record, containing the name, addresses and other relevant particulars of the licensees and applicants for licenses as well as of the concerned premises.

(12) Every license shall be renewed annually.

(13) The Punjab Food Authority shall contain particulars of the disposal of the applications, the grounds of rejection, if any, annual renewal, cancellation or suspension or imposition of a penalty.

(14) No person shall be granted a license for a premise to operate a food manufacturing plant unless he complies with the following conditions:

(a) The application is accompanied by a site plan showing the building and structure and medical fitness certificate as required under these regulations; and

(b) The building for housing the plant has:

(i) Floors constructed of concrete or other impervious material, smooth and provided with trapped drains clean and in good repairs;

(ii) Walls and ceilings having a smooth, washable light coloured surface, clean and in good repair;

(iii) Doors and windows provided auto-closing and with effective means to prevent the access of flies and to screen the outer air;

(iv) Adequate lighting on all working surfaces;

(v) Sufficient ventilation for emission of smoke and off-odours condensing on structures and equipment;

(vi) Effective means for protection from contamination due to insects and rodents;

- (vii) Toilet rooms, wherever provided, bearing a sign and having self-closing doors, and not opening into any rooms used for handling or storing of food;
- (viii) Easily accessible, adequate water supply, and safe sanitary quality;
- (ix) Convenient hand-washing facilities with running water, soap and towels; and
- (x) Cold storage facilities for perishable articles.

(15) If the articles of food are manufactured, stored or exhibited for sale at different premises situated in more than one local area, separate applications, shall be made and separate licenses shall be issued in respect of each such premises not falling within the same local area: Provided that the itinerant vendors having no specified place of business may be licensed to conduct business within the jurisdiction of the Punjab Food Authority.

(16) A license granted under these regulations, unless suspended, withdrawn or cancelled earlier by the Punjab Food Authority, shall continue to be in force up to the end of the calendar year in which it is issued and shall be renewable annually on application by the licensee to the Punjab Food Authority on payment of renewal fee same as licensing fee.

(17) If a licensee fails to apply for renewal of license before the date it was due to expire, the license shall not be renewed unless the Punjab Food Authority is satisfied that there was sufficient cause for delay and in that case licensee shall pay an extra fee of five thousand rupees.

(18) An application for the grant of a license shall:

- (a) Specify name and address of the applicant;
- (b) Indicate the location, full particulars and address of the premises for which the license is required; and

(19) An application for the renewal of a license shall specify:

- (a) The name of the licensee;
- (b) License number;
- (c) The location and full particulars of the licensed premises; and
- (d) The date up to which the license was valid.

(20) An application for the renewal of a license shall be subject to the conditions for the grant of license under this regulation and an endorsement of renewal of license shall be made on the original license.

(21) If a licensee contravenes any condition of the license, then without prejudice to any other action which may be taken against him, his license may be cancelled or suspended by the Punjab Food Authority after affording the licensee reasonable opportunity of showing cause against the proposed action.

(22) An itinerant vendor granted a license under these regulations shall carry an identity card issued by the Punjab Food Authority showing clearly the license number, the nature of articles for the sale of which the license has been granted, his name and address and the name, address of the owner, if any, for whom he is working. His containers of food and the vehicle shall also be similarly marked. The smart card shall be renewed every year: Provided that the whole-time employees of the companies shall not be treated as itinerant vendors for the purpose of carrying a metallic badge on their arms or obtaining separate licenses if an identity card containing particulars of the valid license is carried by them.

### **13.3 Special category of licenses:**

The Punjab Food Authority shall issue license for any of the processes involved in disposal of extraneous substances and/or food that is waste and/or is unsafe/unfit for human consumption. International best practices and/or recommendations by the Scientific Panel of the Punjab Food Authority may be taken into consideration in this regard.

#### **14. Cooked, Grilled meat (mutton, beef, poultry and sea food)**

(1) "Cooked, grilled meat (mutton, beef, poultry and sea food)" means the meat cooked or grilled in the form commonly known as karahi gosht, karahi tikka, balti/karahi gosht, tikka (chicken, mutton, beef, fish), mutton chop, roast leg and in any other form of similar type by whatever name it is or may be called.

(2) No person shall sell or offer for sale or prepare or store for sale, either directly or indirectly, meat at any place and in any area or locality except under a license granted under the regulations and at the place specified in the license.

(3) The meat shall be sold, offered for sale, prepared and stored for sale in accordance with the terms and conditions specified in the license.

#### **15. Special Conditions for Butter, Desi ghee, Cream or Khoa factory**

(1) A licensee shall not keep butter, desi ghee, cream or khoa or permit to be kept outside the licensed premises on the public road or street.

(2) No oil, margarine, banaspati, paraffin, fat, or charbi or other substance capable of being used for the adulteration of ghee, shall be kept on the premises.

(3) No essences or colouring matters likely to give semblance of desi ghee, butter, creamery shall be kept on the premises.

(4) The premises shall not form part, or communicate, otherwise than by a public street with any other premises upon which is kept any of the substances in sub-rule (2).

(5) All butter or cream brought to the premises for being manufactured into desi ghee or milk for the manufacturing of butter, desi ghee, cream and khoa shall until actually required for such manufacture, be stored in a room separate from the room or rooms in which the processes of manufacturing, packing, pressing, cleaning or preparation are carried on.

(6) Butter, cream, desi ghee and khoa shall be kept in properly covered stainless steel, approved metal or glass or glazed-ware receptacles.

(7) The process of melting shall be carried out in a properly constructed fire-place provided with a suitable fuel.

(8) The utensils used for skimming the refuse matters from the surface of the melted butter shall at all times be kept in a clean state and shall not be placed on the floor but shall be placed on a suitable shelf or table provided for the purpose in close proximity to the fire place and such shelf or table shall be maintained in a clean condition.

(9) The licensee shall not keep, handle or sell any butter, cream, khoa under any condition which renders the said butter, cream, khoa liable to contamination.

(10) All coal, coke or fire wood or liquid/gas fuel to be used in the process of melting butter, ghee or condensing milk shall be kept in suitable containers.

#### **16. Special Condition for Banaspati, Vegetable oil, Margarine, Charbi and Animal fat (Halal) (Note for Animal Fat and Charbi: Earlier the products like charbi, chicken offal and animal fat were allowed for**



*human consumption as per PPFR, 2017, whereas now these products stand as banned for human consumption as per the Table of strictly prohibited substances and can only be destined for bio-diesel production)*

(1) No substance capable of being used for the adulteration of banaspati, vegetable oil, margarine, charbi, or animal fat (Halal) shall be kept on the premises.

(2) Banaspati, vegetable oil, margarine, charbi or animal fat (Halal) kept on the premises shall be conspicuously labelled or durably marked as provided for in the regulations.

(3) The premises shall not form part of, or communicate, otherwise than by a public street, with any premises upon which is kept any of the substances capable of being used for adulteration.

#### **17. Special Condition for all Licensed Premises.**

(1) A licensee shall not keep or store on the premises of a creamery or a dairy any condensed milk or dried milk or dried skimmed milk or any preservative or any other substance capable of being used as an “Adulterant”.

(2) The adulterants shown in column (II) below shall be prohibited to be stored in premises in which substances shown in column (I) below are made.

<b>Substances (i)</b>	<b>Adulterants (ii)</b>
Fresh milk	Skimmed milk, any preservative condensed milk, dried milk, whey powder or any other substance.
Desi ghee	Vegetable oil products of all kinds edible oils, hydrogenated fish oil, coconut oil, any other vegetable oil, fat, white oil or paraffin any mixture made of two or more of the above articles.
Butter	animal fat, margarine, vegetable oils, banaspati and other edible oils or fats
Tea	Artificial tea, phutti, fine chaffing of wheat or bran, or pulse, tea sweepings
edible oil ghee	butter, white oil or paraffin.
fats	Butter, ghee
coffee	chicory
Vinegar	Acetic acid, glacial acetic acid, all coloring matters expects caramel, preservatives, any mineral acid.
Fruit juice & lime juice	Tartaric, Phosphoric or other foreign acid other than citric acid.

#### **18. Form of registration.**

(1) The register required to be kept and maintained under these Regulations shall be kept and maintained in the form shown below:

Front page name and address of applicant. Address of the premises.

Number and date of license.

Operation carried on.

(2) Subsequent Pages

Operations carried on.

Sr. No	Disposal
1	Quantity manufactured, prepared, purchased or received
2	Date of manufacture preparation, purchase or receipt.
3	Nature of substance
4	Descriptive marks
5	Name and address of party to whom sold or from whom received.
6	Quantity sold or received.
7	Date of sale receipt
8	Brand of article
9	Remarks

(3) The prescribed register shall be maintained in the form of a permanently bound and serially paged register and shall be kept in the licensed premises. The said register shall be open to inspection by an officer or any Food Safety Officer appointed by the Punjab Food Authority at any time when the business of manufacture or sale is being carried on, or at any other reasonable time after notice to the licensee of not less than twenty-four hours.

## PART-VI

### 19. Prevention of Food Poisoning.

(1) If a registered medical practitioner becomes aware, or suspects that a patient under his treatment is suffering from food poisoning, he shall forth with send to the Punjab Food Authority a certificate stating:

- (a) The name, age and sex of the patient and the address of the premises where the patient happens to be;
- (b) Particulars of the suspected food poisoning; and
- (c) Full particulars of the registered medical practitioner sending the certificate.

(2) If the Food Safety Officer/ Assistant Food Safety Officers has reasonable ground for suspecting that any food of which he, or any other officer of the Punjab Food Authority of the district has procured a sample under provisions of the ordinance or the regulations, is likely to cause food poisoning or communicable disease, he may give notice in form (6) to the person in charge of the food that until his investigations are completed, the food or any specified portion thereof, is not to be used for human consumption and is not to be removed except to the place specified in the notice.

(3) A person who uses or removes any food in contravention of the requirements of the notice given under this regulation shall be guilty of an offence under the ordinance.

(4) If as a result of investigation, Food Safety Officer/ Assistant Food Safety Officers is satisfied that the food in question or any portion thereof is likely to cause food poisoning, he may deal with it as food falling within the meaning of section (5), but if he is satisfied that it may safely be used for human consumption, he shall immediately withdraw the notice.

(5) If a notice given under sub-rule (2) is withdrawn by the Food Safety Officer/ Assistant Food Safety Officers or if the court before whom any food is brought under the said sub-rule refuses to condemn it, the Punjab Food Authority shall compensate the owner of the food to which the notice relates for any depreciation in its value resulting from the action taken by The Food Safety Officer/ Assistant Food Safety Officers.

(6) The Food Safety Officer/ Assistant Food Safety Officers of The Punjab Food Authority may, by notice in writing, require the person in charge of a dairy or source of milk suspected of causing communicable disease to stop the supply of milk from such dairy or source: Provided that the milk supplied from a dairy would be deemed as likely to cause communicable disease if any person suffering from communicable disease is employed in a dairy or in the milk trade as a seller, purveyor producer or in any other capacity.

(7) The Food Safety Officer/ Assistant Food Safety Officers of the Punjab Food Authority shall without undue loss of time collect samples of the material suspected of food poisoning and shall forward samples in case of contamination of food by poisonous chemical to the Government Public Analyst, and in case of bacterial infection of food to the Bacteriologist of the Government.

(8) The food specimens and all pathological material so collected shall be kept as far as applicable in an icebox or refrigerator until delivery to the Public Analyst or, as the case may be, to the Bacteriologist.

## **20. Power to Deal with Persons Engaged in Food Business Suffering from Communicable Disease.**

(1) Despite having the availability of the medical fitness certificate of a person, where the Food Safety Officer/ Assistant Food Safety Officer is of opinion that any person engaged in selling or manufacturing any article of food is suffering from or harboring the germs of any communicable disease, he may order him in writing to appear before the medical superintendent of the area for a medical fitness certificate.

(2) If on such examination, it is confirmed that such person is suffering from communicable disease(s), the Food Safety Officer / Assistant Food Safety Officer may by order in writing direct such person not to take part in selling or manufacturing any article of food.

## **PART-VII**

### **21. Appointment of Public Analyst.**

MS/M.Sc.(hons.)/MPhil in Food Science & Technology /Food Technology/Agriculture Food Technology/Agriculture Food Science and Technology/Biochemistry with 3 years of relevant experience after acquiring education.

OR

BS/B.Sc. (hons.) in Food Science & Technology / Food Technology/ Agriculture Food Technology/ Agriculture Food Technology/ Agriculture Food Science and Technology/ Biochemistry with 5 years of relevant experience after acquiring education.

OR

By promotion on the basis of seniority cum fitness from amongst Assistant Public Analyst of the Punjab Food Authority having requisite qualification and 7 years of regular service experience if none is available then By Initial recruitment.

Note: Nothing in this regulation shall affect the appointment of Public Analysts made before the coming into force of these regulations.

### **21.1 Duties of Public Analyst**

(1) On receipt of a package containing a sample for analysis from the Food Safety Officer/ Assistant Food Safety Officers or any other person notified under rule 42, The Public Analyst or an officer authorized by him shall compare the seals on the package and the outer cover of the sample with specimen impression received and shall note the condition of the seals thereon.

(2) The Public Analyst shall cause to be analyzed such samples of articles of food as may be sent to him by the Food Safety Officer/ Assistant Food Safety Officers or by an officer authorized under the Act, 2011 or by any other person notified under rule (42).

(3) After the analysis has been completed, the Public Analyst shall, within a period of twenty days from the receipt of any sample for analysis, deliver or send to the Punjab Food Authority concerned two copies of the certificate in the form specified in the schedule of the ordinance showing the result of such analysis.

### **22.0 Powers and Functions of the Punjab Food Authority.**

(1) The Punjab Food Authority shall regulate and monitor the food business in order to ensure provision of safe food.

(2) Without prejudice to the provisions of sub-section (1), The Punjab Food Authority may:

(a) Formulate standards, procedures, processes and guidelines in relation to any aspect of food including food business, food labelling, food additive, and specify appropriate enforcement systems;

(b) Specify procedures and guidelines for setting up and accreditation of food laboratories;

(c) Formulate method of sampling, analysis of samples and reporting of results;

(d) Specify licensing, prohibition orders, recall procedures, improvement notices or prosecution;

(e) Determine terms and conditions of service of its employees;

(f) Provide scientific advice and technical support to The Government in matters relating to food;

(g) Collect and analyze relevant scientific and technical data relating to food;

(h) Establish a system of network of food operators and consumers to facilitate food safety and quality control;

(i) Organize training programs in food safety and standards;

(j) Promote general awareness as to food safety and standards;

(k) Levy fee for registration, licensing and other services;

(l) Certify food for export;

(m) Perform any other prescribed function; and

(n) Do any other thing which is necessary for the discharge of its functions under this act.

(3) The Punjab Food Authority shall exercise its functions, as far as possible, in accordance with the well-established scientific principles and international best practices.

## **22.1 Duties of Punjab Food Authority.**

(1) It shall be the duty of a Punjab Food Authority to:

(a) Take steps for the creation of the post of one Food Safety Officer for every 500,000 population or part thereof and for his appointment;

(b) Ensure that the Food Safety Officer collects a minimum of 100 samples a month, and an Assistant Food Safety Officer, at least 20 samples a month;

(c) Maintain permanent registers of licensees' category-wise as required under these regulations;

(d) Ensure that the cases of food offence cases are neither withheld nor are they compounded, without the approval in writing of the Punjab Food Authority;

(e) Maintain permanent record of the prosecution of food offenders and of the revenues from the costs realized; and

(f) Enforce the provisions of the ordinance and the regulations;

(2) The Punjab Food Authority shall, within a period of seven days of the receipt of copies of the report of the result of analysis, before initiating prosecution, forward a copy of the report of the said analysis, by registered post or by hand, to the person from whom the sample of the article was taken by The Food Safety Officer and also to the person, if any, whose name, address and other particulars have been disclosed under regulation (46) of these Regulations.

(3) Punjab Food Authority, without reasonable cause, fails to enforce The Punjab Food Authority Act, 2011 and the regulations for a period exceeding six months, The Deputy Commissioner may invoke the provisions of Section (35) of these Regulations.

## **23. Appointment of Food Safety Officer**

(1) No person shall be appointed as Food Safety Officer under section (16) unless he possesses a master's or a bachelor's degree in Food Science, Food Technology, Food Science and Technology from a recognized university.

(2) On appointment, a Food Safety Officer shall receive three months' training in food inspection and sampling work in an institution approved for the purpose by the Government.

(3) Nothing in this regulation shall affect the appointment of Food Safety Officer already made before the coming into force of these Regulations.

### **23.1 Powers of Food Safety Officer**

(1) A Food Safety Officer may—

(a) Take sample of any food or any substance, which appears to him to be intended for sale, or has been sold as food;

(b) Seize any food, apparatus or utensil which appears to The Food Safety Officer to be in contravention of Punjab Food Authority Act 2011, the regulations or the regulations;

(c) Enter or seal any premises where he believes any food is prepared, preserved, packaged, stored, conveyed, distributed or sold, examine any such food and examine anything that he believes is used, or capable of being used for such preparation, preservation, packaging, storing, conveying, distribution or sale;

- (d) Impose fine on a food operator if the Punjab Food Authority has delegated such power to him;
  - (e) Open and examine any package which, he believes, to contain any food;
  - (f) Examine any book or documents with respect to any food and make copies of or take extracts from the book or document;
  - (g) Demand the production of the identity card, the business registration certificate, licence or any other relevant document from a food operator;
  - (h) Mark, seal or otherwise secure, weigh, count or measure any food or appliance; and
  - (i) Search and seize any vehicle carrying food.
- (2) A Food Safety Officer shall prepare a statement describing the food, apparatus, utensil or vehicle seized and shall deliver a copy of the statement to the person from whom it is seized or, if such person is not present, send such copy to him by mail.
- (3) A person claiming back anything seized under sub-section (1) may, within seven days of the seizure, apply to the court and the court may confirm such seizure, wholly or in part, or may order that it be restored to the claimant.
- (4) If the court confirms the seizure of the food, apparatus or utensil, it shall be forfeited to the Punjab Food Authority or the court may direct that such food, apparatus, utensil may be destroyed at the cost of the owner or person in whose possession it was found.
- (5) If an application is not made within seven days under Sub-section (3), the food, apparatus or utensil seized, shall be forfeited to the Punjab Food Authority.
- (6) Any person may make an application in writing to the Food Safety Officer asking him to purchase a sample of any food from a food operator and get it analyzed from the Public Analyst.

### **23.2. Duties of Food Safety Officer**

- (1) It shall be the duty of a Food Safety Officer:
- (a) To inspect, as frequently as may be prescribed by the Punjab Food Authority, all establishments licensed for the manufacture, storage, or sale of an article of food within the area assigned to him;
  - (b) To satisfy himself that the conditions of a license are being observed;
  - (c) To procure and send for analysis, samples of any article of food which he has reason to suspect are being manufactured, stocked or sold or exhibited for sale in contravention to the provisions of the Act or these regulations;
  - (d) To maintain a record of all inspections made and action taken by him in the performance of his duties, including the taking of samples and the seizure of stocks sealing, and to submit copies of such record to The Food Safety Officer of the Punjab Food Authority as directed in this behalf;
  - (e) To make such inquiries and inspections as may be necessary to detect the manufacture, storage or sale of articles of food in contravention of the ordinance or these regulations;
  - (f) To stop any vehicle suspected of containing any food intended for sale or delivery for human consumption; and
  - (g) Perform such other duties as may be entrusted to him by the Punjab Food Authority.

(2) A Food Safety Officer shall maintain the record of the court decisions of each case under clause (a), (b) and (c) of sub-section (1) of section (23) of Punjab Food Authority Act 2011, as the case may be, for the production as evidence of the facts contained therein the name, address, the nature and the location of the business for which a license has been granted or suspended, in any inquiry, trial or other proceedings under the Act; and, shall send a copy of the court decision of each case under the Punjab Food Authority Act 2011.

(3) When so authorized by the Punjab Food Authority, a Food Safety Officer may detain an imported package which, he has reason to suspect, contains the food the import or sale of which is prohibited.

(4) On receipt of a complaint in writing about the contravention of the any provisions of the Act or these regulations, the Food Safety Officer shall investigate the complaint and, where necessary, shall seize a sample in fulfillment of the requirements of section (9).

#### **24. Fee for analysis.**

The fees for the analysis of samples by a Public Analyst shall be levied and the rates shall be applicable as are notified by the Competent Authority from time to time. The current rates are attached as Appendix II to these Regulations.

#### **Explanation.**

The expenses for the Public Analyst appearing in a court will be credited to Government revenues and the Public Analyst will only draw the travelling allowance and daily allowance prescribed under the relevant travelling allowance Regulations.

(2) The prescribed fee shall be paid in advance to the Public Analyst in cash or by money order or by postal order or through a bank draft, or by credit to a treasury at the place where the Public Analyst is stationed.

(3) A person, from whom any food is purchased or obtained for purposes of analysis, may obtain a copy of the certificate of The Public Analyst in respect of such article on payment of a fee of Rs.50.

(4) A person who, under Section (9), requires a Food Safety Officer to purchase a sample of food for purposes of analysis shall pay, in addition to the above-mentioned fee, a sum of Rs. 50: Provided that the amount so paid shall, in no case, be refunded.

### **PART-VIII**

#### **25. Procedure for Seizure of Unsound Food.**

(1) If in any market, go down, shop, stall or other place used for the sale of any food intended for human consumption or for the preparation, manufacture or storage of any such food for the purpose of trade or sale, a Food Safety Officer finds any article of food which, in his opinion, is or appears to be injurious to health or is decayed or putrefied, he shall, in the presence of two respectable persons and if practicable of the owner of the articles or his agent or of the occupant of the premises, forthwith cause the article to be seized and taken into his custody.

(2) An inventory of the article of food seized under sub-rule (1) and of the receptacles or utensils in which it was kept shall be prepared, and signed by the persons witnessing the seizure, and the articles so seized shall be sealed in their presence.

(3) The Food Safety Officer shall, before sealing the articles so seized, take sample thereof in the manner prescribed in the Act or the Regulations or the Regulations.

(4) If any food seized under the law is certified by the Public Analyst as fit for human consumption or of the same nature, substance, or quality which it purports to be, the Food Safety Officer shall restore the food to the owner subject to previous permission of the officer authorized in this behalf by the Punjab Food Authority.

### **25.1 Order Not to Dispose of Stock**

Where a Food Safety Officer decides to keep the food seized under the act or these regulations in safe custody of the vendor, he shall, after sealing the stock, make an order in form not to dispose of the stock and the vendor shall comply with such order.

### **25.2 Receipt for Food Seized.**

The Food Safety Officer, while seizing and removing food articles shall issue a receipt or as the case may be, in form to the person concerned for each such article of food.

### **25.3 Hours During Which a Food Safety Officer may Enter into and Inspect Places Used for the Sale of Food.**

A Food Safety Officer may, at any reasonable time, exercise the powers conferred on him under provision of these Regulations for the inspection of any place ordinarily used for sale, preparation, manufacture or storage of any food.

## **26. Method of Taking Sample.**

(1) The Food Safety Officer who seizes or procures a sample of a food, which is consigned to any person, shall forthwith divide the same into three parts and shall deliver or forward one of the parts to the person from whom the sample is seized or procured, shall send or submit the second part to the Punjab Food Authority for future comparison, and shall submit the third part to the Public Analyst.

(2) Every vendor of an article of food shall disclose to the Food Safety Officer, the name, address and other particulars of the person from whom he purchased the articles of food.

### **26.1 Packing of Samples of Food for Analysis**

(1) A sample of food for purposes of analysis shall:

(a) In case of pre-packed food, be taken in original containers as far as practicable;

(b) In case of other food and in the case of pre-packed foods in large containers, be placed in clean dry bottles or jars, which shall be closed sufficiently tight to prevent leakage or evaporation of moisture; and

(c) In case of dry or solid food, be placed in cartons, paper bags, plastic containers, or polyethylene bags accordingly as their nature permits.

(2) All such bottles or jars or tins or cartons or paper bags or plastic containers or polyethylene bags shall be labelled and covered all round with a piece of cloth to be sewn at the ends and sealed on the stitches, if possible in the presence of the person from whom the sample has been taken and of two other respectable persons shall clearly indicate the name of the article, the name of the vendor, the place of collection and the date and time of taking the sample.

(3) The sealed container of one part of the sample shall be forwarded to The Public Analyst immediately but not later than the succeeding working day by any suitable means, along with a letter in form giving full particulars of the sample and enclosing a clear impression of the seal used for packing.



(4) The sealed container of the third part of the sample and a copy of letter in Form 5 giving full particulars of the sample shall be sent in a sealed packet to the Punjab Food Authority concerned immediately but not later than the succeeding working day by any suitable means.

(5) A Food Safety Officer shall indicate in the forwarding letter the number of times for which the person from whom a sample has been taken was convicted for food offences previously. In the case of a person from whom the sample has been taken for the first time, the Food Safety Officer shall indicate in the remarks column by inserting the word “new”.

## 26.2 Quantity of sample

The quantity of a sample to be supplied for analysis to a Public Analyst shall not be less than specified below:

Sr.No	Article of food	Approximate quantity to be supplied
1	Milk	250ml
2	Desi ghee, butter.	150mL/gm
3	Khoa, dahi	250mL/gm
4	Edible oils & fats	150mL/gm
5	Tea	150 mL
6	Atta, Maida, Suji, Basin	200 gm
7	Sugar, Honey, Gur, shaker or other sweeteners	250 gm
8	Prepared food	500 gm
9	Aerated carbonated water	500 mL
10	Banaspati	500 gm
11	Spices	200 gm
12	Cereal & Cereal product (other than atta)	250 gm
13	Saffron	15 gm
14	Bakery Products	500 gm
15	Confectionary	300 gm
16	Ice cream, cream, condensed milk, cheese	250 gm
17	Silver leaf	1 gm
18	Baby foods	450 gm
19	Milk powders	450 gm
20	Syrup, sherbets, fruits and vegetables	250 mL

21	Foods not specified	500 gm/mL
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## Part-IX

### 27. Issuance of Medical Fitness Certificate for Food Handlers

Upon screening/ testing of food workers for communicable diseases, such as Tuberculosis, Typhoid, HIV and Hepatitis B and C, on its own after levying a fee as prescribed from time to time by the complete authority or through authorized government institution, the Punjab Food Authority shall issue medical fitness certificate for food workers.

## Part X

### 28. Mandatory and Optional Trainings of the Food handlers, workers and managerial staff.

It shall be mandatory for all the food handlers/workers, supervisors and executive chefs to have received trainings related to food handling, personal hygiene, food safety management and good manufacturing practices from the Punjab Food Authority Schools and same shall be evidenced by producing certificates on demand of the Food Safety Officer. These certificates shall be provided to those persons who successfully complete the respective training sessions. The Punjab Food Authority Schools all over Punjab will conduct different level of food safety training sessions for the food handlers/workers, supervisors, managers and chefs in order to acquaint them with sufficient knowledge about food handling, personal hygiene, food safety management (level-wise) and good manufacturing practices and upon the completion of the training sessions a certificate of trainings shall be provided. Following types of trainings will be conducted:

#### a. Food Safety Level 1 Training:

The level 1 is set mandatory for all food handlers for all food related organization. If any food handler is found working at any working place related to food without level 1 certification it shall be considered a violation of these regulations.

#### b. Food Safety Level 2 Training:

The level 2 is designed for all supervisors, chefs and quality control related persons etc. and shall be mandatory for the supervisors, chefs, persons in charge (PIC) and other quality control related designations.

#### c. Person Incharge/Hygiene manager courses

Hygiene manager course is mandatory for all person working in the managerial/supervisory role in food related business. There shall be at least 1 person in every shift in the food organization/industry that is certified hygiene manager after the completion of the hygiene manager course offered by the Punjab Food Authority Schools. It is also mandatory for the Organization/Industries to hire those qualified person who has hygiene manager certification. From October, 2018 onwards no FBOs shall be allowed to operate without hiring atleast one person who has successfully completed certification of hygiene manager/person incharge certification from the Punjab Food Authority Schools.

#### (i) Specialized Courses

Specialized courses are offered by the Punjab Food Authority Schools for all those persons/operators who want to learn just specific knowledge about their job or domain. This course includes trainings about Dairy, Poultry, ice cream and Beverage/Juices etc.

# APPENDIX-I

## CHAPTER 1

Production, selling and storage and any other food use of dairy drink shall be discouraged and will subsequently be completely banned by 5 December, 2018.

### 1. Dairy and Dairy Products

**Definitions:** The following definitions shall apply in the interpretation and the enforcement of these Regulations:

- (a) "Milk" means normal, clean and pure secretions obtained from the mammary glands of healthy halal milk animals (buffaloes, cows, goats, sheep's, camels and/or mixed), free from colostrum's, having 12% minimum milk total solids including minimum 3.5% milk fat and minimum 8.5% milk solids not fat.
- (b) "Pasteurization", a process of heating milk for a specified and approved time-temperature combination to kill pathogenic microorganisms that can cause disease;
- (c) "Pasteurized milk", a liquid product made of fresh raw milk sourced from halal milk animals processed through a process i.e. pasteurization to destroy completely the vegetative bacterial pathogenic micro-organisms and be cooled immediately to 6°C after processing;
- (d) "Feed", means any single or multiple sourced materials, whether processed, semi-processed or raw, which is intended to be fed directly to milk producing animals;
- (e) "Authority" means the Punjab Food Authority;
- (f) "Code" means the code of criminal procedure, 1898 (v of 1898)
- (g) "Cooperatives" means cooperatives dealing in milk or dairy products;
- (h) "Milk producer" means a keeper of animals kept for the purpose of producing milk;
- (i) "Dairy farm" means any place or premises where one or more lactating animals (cows, goats, sheep, water buffaloes and/or chemical) are kept for milking purposes, and from which a part or all of the milk or milk product(s) is provided, sold or offered for sale to a milk plant, collection center or transfer station;
- (j) "livestock" means halal milk animals like cattle, buffalo, sheep, goat and camel kept or raised on farm, ranch or house;
- (k) "Milk transportation company" the person/company responsible for transportation of milk;
- (l) "Milk transport tank" a vehicle, including the truck and tank, used by a bulk milk hauler/sampler to transport bulk shipments of milk and milk products, from a milk plant, receiving station or transfer station to another milk plant, receiving station or transfer station;
- (m) "Receiving station/collection center", any place, premises, or establishment where raw milk is received, collected, handled, stored, or cooled and prepared for further transporting;

(n) "Production facility" means the premises where milk is pasteurized and packaged for sale to the consumers;

(o) "Pasteurization plant" means the whole unit used for the heat treatment of milk i.e. pasteurization either batch type or continuous type;

(p) "Functions" includes powers and duties;

(q) "Traders" means who deals in buying and selling of pasteurized milk

(r) "Milk processor" means who process the pasteurized milk minimum pasteurization: sale of loose milk shall not be allowed and all milk offered for sale shall be pasteurized as a mandatory requirement. The standard guidelines for minimally pasteurized milk shall be read in conjunction with Annexure 1.

**"Pasteurization"**, Pasteurized and their grammatical variations when used to describe a dairy product means that every particle of such product shall have been heated in properly operated equipment to one of the temperature specified in the table of this paragraph and held continuously at or above that temperature for the specified time (or other time / temperature relationship which has been demonstrated to be equivalent thereto in microbial destruction):

Temperature	Time
63°C (145°F)	30 Seconds
72°C (161°F)	15 Seconds
89°C (191°F)	1 Second
90°C (194°F)	0.5 Seconds
94°C (201°F)	0.1 Seconds
96°C (204°F)	0.5 Seconds
100°C (212°F)	0.01 Seconds

If the fat content of the milk product is ten percent (10%) or greater, or a total solid of 18% or greater, or if it contains added sweeteners, the specified temperature shall be increased by 3°C. Pasteurized milk should have a negative phosphatase test.

**"Sterilization"**, "Sterilized: and similar terms shall be taken to refer to the process of heating every particle of milk to at least 212°F (100°C) or equivalent approved temperature- time combination for such a period as to ensure that it will comply with the to these Regulations, and shall be packed in hermetically sealed containers.

**"Ultra-high Temperature Milk or UHT Milk"** Means the milk which has been subjected to heat treatment by being retained at a temperature of not less than 135°C for at least 2 seconds to render it commercially sterile and immediately aseptically packed in a sterile container. There shall be written on the label of a package containing ultra-high temperature milk or UHT milk the words "ultra-high temperature milk" or "UHT milk", as the case may be.

#### **Explanation:**

The products subjected to commercial sterilization must be micro biologically stable at room temperature, either measured after storage until end of shelf life or incubated at 55°C for 7 days (or at 30°C for 15 days) in accordance with appropriate standards.

## **01.1 Fluid Milk and Milk Products**

### **01.1.1 Fluid Milk (Plain)**

Means the normal, clean and pure secretion obtained from the mammary glands of a healthy cow, buffalo, goat, camel or sheep (halal milk animals), whether boiled, homogenized, pasteurized, sterilized or UHT. Milk shall contain not less than 34 percent of milk protein in milk solids not fat and lactose not less than 46 percent in milk solids not fat. It shall be free from colostrum and any kind of adulterants like added water, urea, starch, formaldehyde, detergents, artificial milk, non-dairy fats, sugars, salts, ammonium sulphate, hydrogen peroxide, sodium bicarbonate, boric acid, salicylic acid, etc. Levels of melamine, hormones, antibiotic residues, aflatoxins and heavy metals shall meet the Codex Alimentarius standing guidelines.

### **01.1.2 Milk Product:**

Means a product obtained by any processing of milk, which may include food additives and other ingredients functionally necessary for processing and includes but not limited to cream, concentrated milk, condensed milk, skimmed milk, separated milk, flavoured milk, milk for making tea, milk shake, milk drink, dahi, yoghurt, raita, rasmalai, lassi, khoya, barfi, pera, kalakand, cheese, dried milk, dried milk for making tea, ice cream and any other product made by the addition of any substance to milk or to any of the milk products and used for similar purposes. Milk products shall not contain any substance not found in milk unless specified in the standards.

### **01.1.3 Standardized Milk:**

Means milk which has been reduced to the prescribed level of milk fat by removal of fat. It shall contain not less than 8.9 percent of milk solids not fat and it shall contain not less than 12.4 percent of milk solids including 3.5 percent of milk fat. It shall be homogenized, sterilized / UHT. The standardized milk shall be free from any added non-dairy ingredients, except the permitted food additives and nutrient supplements. The label of standardized milk shall not bear any expression, pictorial representation or design that indicates, suggests or implies that the milk is full cream milk or whole cream milk.

### **01.1.4 Homogenized Milk**

Means milk which has been treated in such a manner as to ensure break-up of the fat globules contained therein to such an extent that after forty-eight hours of quiescent storage, no visible cream separation appears on the milk. "Milk" where milk other than skimmed or separated milk is sold or offered for sale without indication as to whether it is derived from cow, buffalo, goat, camel or sheep, the standards prescribed for mixed milk shall apply.

### **01.1.5 Mixed Milk**

Means a combination of milk from cow, buffalo, sheep, goat, camel or any other halal milch animal sold as loose milk. It shall contain not less than 4.25 percent of milk fat and it shall contain not less than 8.75 percent of milk solids.

### **01.1.6 Cow's Milk**

Shall be the milk obtained from one or more cows. It shall contain not less than 12 percent of milk solids, and not less than 3.5 percent of milk fat, and not less 8.5 percent of milk solids other than milk fat.

### **01.1.7 Buffalo's Milk**

Shall be the milk obtained from one or more buffaloes. It shall contain not less than 14 percent of milk solids and not less than 5.0 percent of milk fat and not less than 9.0 percent of milk solids other than milk fat.

#### **01.1.8 Goat's Milk**

Shall be obtained from one or more goats. It shall contain not less than 11.5 percent of milk solids and not less than 3.5 percent of milk fat and not less than 8.0 percent of milk solids other than milk fat.

#### **01.1.9 Sheep's Milk**

Shall be obtained from one or more sheep. It shall contain not less than 15% percent of milk solids and not less than 6% percent of milk fat and not less than 9% percent of milk solids other than milk fat.

#### **01.1.10 Camel's Milk**

Shall be the milk obtained from one or more camels and shall contain not less than 12 percent of milk solids and not less than 3.5 percent of milk fat and not less than 8.5 percent of milk solids other than milk fat.

#### **01.1.11 Low Fat Milk**

Low fat milk shall contain no more than 2.5 percent milk fat and not less than 8.9 percent milk solids. It shall not have any non-dairy ingredients except the permitted food additives and nutrient supplements. The term low fat and percentage of fat must be clearly mentioned on the label.

#### **01.1.12 Skimmed Milk**

Skimmed milk shall contain not more than 0.5 percent milk fat and not less than 8.9 percent milk solids. It shall not have non-dairy ingredients except the permitted food additives and nutrient supplements. The term skimmed milk and percentage of fat must be clearly mentioned on the label.

#### **01.1.13 Flavored Milk**

Means milk to which has been added syrups made from wholesome ingredients, by whatever name called, may contain nuts (whole, fragmented or ground fruits, chocolate, coffee or any other permitted flavor, permitted color, with or without other permitted food additives and sugar. It shall be boiled, pasteurized or sterilized and UHT. The flavored milk shall have not less than 3.5 percent of milk fat and not less than 8.5 percent of milk solids not fat and total milk solids not less than 12 percent. There shall be written on the label of a package containing flavored milk, the words "flavored milk" or the name of the flavor conjoined with the words "flavored milk". These words shall form the first line of the label and no other words shall appear in the same line.

**Note:** *It is mandatory to mention the Milk fat percentage and the percentage of Milk solid not fat conforming to the legibility requirements on the label of flavored milk.*

#### **01.1.14 Flavored Dairy Beverage**

It shall be boiled, pasteurized or sterilized and UHT and it shall have not less than 2 percent of milk fat and not less than 5 percent of milk solids not fat and total milk solids not less than 7 percent. There shall be written on the label of a package, the words "Flavored Dairy Beverage" or the name of the flavor conjoined with the words "Flavored Dairy Beverage". These words shall form the first line of the label and no other words shall appear in the same line.

\*[There should be no picture depicting any illustration of milk on Flavored Dairy Beverage]

**Note:** *It is mandatory to mention the Milk fat percentage and the percentage of Milk solid not fat conforming to the legibility requirements on the label of flavored dairy beverage.*

**01.1.15 Flavored Fluid Milk Drinks** Includes all mixes and ready-to-drink fermented or not fermented milk-based drinks with flavorings and/or food ingredients that intentionally impart flavor, excluding mixes for cocoa, examples include but are not limited to, chocolate milk, chocolate malt drinks, strawberry-flavoured yoghurt drink, lactic acid bacteria drinks, and lassi (liquid obtained by whipping curd from the lactic acid fermentation of milk, and mixing with sugar or intense sweetener). Milk added drink/milk based drinks/milk based juice drinks shall have not less than 2 per cent milk fat and not less than 5 percent milk solids not fat.

**01.1.16 Fluid Buttermilk (Plain)**

Fluid butter milk is the nearly milk fat-free fluid remaining from the butter-making process (i.e. churning fermented or non-fermented milk and cream). Fluid buttermilk is also produced by fermentation of fluid skim milk, either by spontaneous souring by the action of lactic acid-forming or aroma-forming bacteria, or by inoculation of heated milk with pure bacterial cultures (cultured buttermilk). Fluid buttermilk may be pasteurized or sterilized.

**01.1.17 Fermented and Renneted Milk Products (Plain)**

Includes all plain fermented or renneted products based on skim, part-skim, low-fat and whole milk, excluding food category: 01.1.15 flavored fluid milk drinks. Use of rennet in any dairy food product shall be derived of microbial and animal sources and shall be Halal.

**01.1.18 Fermented Milks (Plain), not Heat Treated after Fermentation**

Includes all plain products, fluid fermented milk and cultured milk, plain yogurts and plain drinks based on fermentation and not Heat-Treated after Fermentation. This category includes the 01.1.23 fermented milks (plain) with an exception that it is not heat treated after fermentation.

**(a) Dahi or Curd**

Means the product obtained by fermentation of pasteurized or boiled milk by wild or pure/ selected culture of lactic acid bacteria. It shall contain not less than 3.5 percent milk fat and not less than 8.5 percent milk solids other than milk fat.

**(b) Skimmed Dahi or Curd**

Means the product obtained by fermentation of skimmed milk by wild or pure/selected culture of lactic acid bacteria. It shall conform to the standards of skimmed milk. It shall not contain milk fat more than 0.5 percent and milk solid not fat not less than 8.5%.

**(c) Yoghurt**

Yoghurt is a coagulated dairy product obtained from milk and milk ingredients after standardization and pasteurization by fermentation through the action of *Lactobacillus bulgaricus* and *Streptococcus thermophilus* or other lactic acid producing bacteria either singly or in combination, dairy based ingredient and permitted food additives as per Codex are allowed to add in yoghurt.

**i. Yoghurt**

Yoghurt minimum milk fat content	3.5%
Minimum milk solids non-fat content	8.5%

## **ii. Partially Skimmed/Low Fat Yoghurt**

Maximum milk fat contents less than	2.5%
Minimum milk fat contents more than	0.5%
Minimum milk solids non-fat content	8.5%

## **iii. Skimmed/Non-Fat Yoghurt**

Maximum milk fat contents	0.5%
Minimum Milk solids non-fat contents	8.5%

## **Essential Raw Materials**

Pasteurized milk or concentrated milk, or pasteurized partly skimmed milk or concentrated partly skimmed milk, or pasteurized skimmed milk or concentrated skimmed milk, or pasteurized cream, or a mixture of two or more of these products.

## **Optional Additions**

Milk powder, skimmed milk powder, unfermented buttermilk, concentrated whey, whey powder, whey proteins, whey protein concentrate, water-soluble milk proteins, edible casein, caseinates, manufactured from pasteurized products.

### **01.1.19 Sweetened, Flavored and Fruit Yoghurts**

The yogurt could be yogurt, partly skimmed yoghurt and skimmed yoghurt complying with the requirements given in yoghurt section 01.1.16 (c) and can contain the following optional ingredients as per requirement.

#### **(a) Optional Ingredients**

Nutritive carbohydrate sweeteners including sugar (sucrose), beet or cane; invert sugar (in paste or syrup form); brown sugar; refiner's syrup; molasses (other than blackstrap); high fructose corn syrup; fructose; fructose syrup; maltose; maltose syrup, dried maltose syrup; malt extract, dried malt extract; malt syrup; dried malt syrup; honey, maple sugar and halal flavoured ingredients. All the permitted additives as per Codex Standard for fermented milk products are allowed in the yoghurt. In fruit yoghurt, fruits in different forms (juice, pulp, cubes, shreds etc) can be added after yoghurt making not less than 5 percent. Nutrient supplements may also be added to yogurts.

### **01.1.20 Probiotic Yoghurt:**

Probiotics are defined as "live microorganisms", which when administered in adequate amounts confer a health benefit on the host. The yoghurt containing the probiotics and prebiotics shall be clinically safe, ensure the viability of probiotics ( $10^6$ cfu/g) till end of shelf life. Genus, species, strain shall be mentioned on the label. Composition of probiotic yoghurt shall comply with the standard of yoghurt given in section No 01.1.16. The entire permitted food additives as per Codex are allowed in the yoghurt along with probiotics and prebiotics. It shall have not less than 3.5 percent fat and 8.5 milk solid not fat.

### **01.1.21 Strained Yoghurt (Chakka or Labneh)**

Means a white to pale yellow semi-solid product of good texture and uniform consistency obtained by draining off the whey from the yoghurt obtained by the lactic fermentation of cow's milk, buffalo's milk, skimmed milk and recombined or standardized milk which has been subjected to minimum heat treatment



equivalent to that of pasteurization. It shall have pleasant yoghurt/dahi like flavor. It shall not contain any non-dairy ingredient. It shall be free from moldiness and free from signs of fat or water seepage or both. It shall be smooth and it shall not appear dry. It shall not contain extraneous color and flavors. It shall conform to the following requirements, namely:

<b>Parameters</b>	<b>Strained yoghurt</b>	<b>Skimmed milk strained yoghurt</b>
(i) Total solids, percent by weight	Minimum 30	Minimum 20
(ii) Milk fat (on dry basis) percent by weight	Minimum 33	Maximum 5
(iii) Milk protein (on dry basis) percent by weight	Minimum 30	Minimum 60
(iv) Titrable acidity (as lactic acid) percent by weight	Maximum 2.5	Maximum 2.5
(v) Total ash (on dry basis) percent by weight	Maximum 3.5	Maximum 5.0

Strained yoghurt when sold without any indication shall conform to the standards of strained yoghurt.

#### **01.1.22 Raita**

Raita shall be a fermented product made by inoculating pasteurized milk to which dried milk or dried non-fat milk solids have been added before pasteurization, with mix cultures of lactic acid producing bacterial raita shall contain not less than 8.5 percent milk solid not fat and not less than 2 percent of milk fat and contain any non-dairy substance like salt, spices, flavors etc. Permitted food additives as per codex are allowed to add in raita.

#### **01.1.23 Fermented Milks (plain), Heat-Treated after Fermentation**

Products similar to that in fermented milks, plain, not heat-treated after fermentation (01.1.18) except that they have been heat-treated (e.g., sterilized or pasteurized) after fermentation.

#### **01.1.24 Renneted Milk plain**

Coagulated milk produced by the action of milk coagulating enzymes, includes curdled milk, flavoured renneted milk products are found in category dairy-based desserts e.g. pudding, fruit or flavoured yoghurt.

#### **01.1.25 Condensed Milk**

Includes plain and sweetened types of condensed milk, evaporated milk. Includes products based on skim, part-skim, low-fat and whole milk, blends of evaporated skimmed milk.

##### **(a) Condensed Milk Plain**

Condensed milk (evaporated) un-sweetened” means the product obtained by the partial removal of water from cow or buffalo milk or combination thereof by heat or by any other process which leads to a product of the same composition and characteristics. The fat and/or protein content of the milk may have been adjusted only to comply with the compositional requirements given in this standard, by the addition and /or withdrawal of milk constituents in such a way as not to alter the whey protein to casein ratio of the milk being adjusted. It may contain added calcium chloride, citric acid and sodium citrate, sodium salts of orthophosphoric acid and polyphosphoric acid (as linear phosphate) not exceeding 0.3 percent by weight of the finished product. It shall conform to the following standards:

(i)	Milk fat	Not less than 8.0 percent
(ii)	Milk solids including milk fat	Not less than 25.0 percent
(iii)	Milk solids other than milk fat	Not less than 17.0 percent
(iv)	Milk protein in milk solids not fat	Not less than 34.0 percent
(v)	Milk Titratable acidity (as Lactic Acid)	Not less than 0.3 percent

#### **(b) Condensed milk (Evaporated) Sweetened**

Means the product obtained from cow or buffalo milk or combination thereof or from standardized milk by the partial removal of water and after addition of sugar. It may contain added refined lactose, calcium chloride, citric acid, sodium salts of orthophosphoric acid and polyphosphoric acid (as linear phosphate) not exceeding 0.3 percent by weight of the finished product. The fat and/or protein content of milk may have been adjusted only to comply with compositional requirements of this standard, by the addition and/or withdrawal of milk constituents in such a way as not to alter the whey protein to casein ratio of the milk being adjusted. It shall conform to the following standards:

(i)	Milk fat	Not less than 8.0 percent
(ii)	Milk solids including milk fat	Not less than 29.0 percent
(iii)	Milk solids other than milk fat	Not less than 21.0 percent
(iv)	Milk protein in milk solids not fat	Not less than 34.0 percent
(v)	Milk Titratable acidity (as Lactic Acid)	Not less than 0.3 percent

The milk solids and milk solids-not-fat content include water of crystallization of the lactose. For all sweetened condensed milks the amount of sugar is restricted by good manufacturing practice (GMPs) to a minimum value which safeguards the keeping quality of the product and a maximum value above which crystallization of sugar may occur.

#### **(c) Condensed Skimmed Milk Sweetened**

Means the product obtained by the partial removal of water from cow or a buffalo skimmed milk or combination thereof by heat or by any other process which leads to a product of the same composition and characteristics. It may contain added calcium chloride, citric acid and sodium salts of orthophosphoric acid and polyphosphoric acid (as linear phosphate) not exceeding 0.3 percent by weight of the finished product. It shall conform to the following standards:

(i)	Milk fat	Not more than 1.0 percent
(ii)	Milk solids including milk fat	Not less than 26.0 percent
(iii)	Milk solids other than milk fat	Not less than 34.0 percent
(iv)	Sugar	Not more than 40.0 percent
(v)	Milk Titratable acidity (as Lactic Acid)	Not more than 0.3 percent

#### **(d) Sweetened Condensed Partly Skimmed Milk**

Means the product obtained by the partial removal of water from cow or a buffalo skimmed milk or combination thereof by heat or by any other process which leads to a product of the same composition and characteristics. It may contain added calcium chloride, citric acid and sodium salts of orthophosphoric acid and polyphosphoric acid (as linear phosphate) not exceeding 0.3 percent by weight of the finished product. It shall conform to the following standards.

(i)	Milk fat	Not less than 1% and Not more than 8 percent
(ii)	Milk solids including milk fat	Not less than 24.0 percent
(iii)	Milk solids other than milk fat	Not less than 34.0 percent

- |  |                            |
|--|----------------------------|
| (iv) Sugar                                   | Not more than 40.0 percent |
| (v) Milk Titratable acidity (as Lactic Acid) | Not more than 0.3 percent  |

### (e) Sweetened Condensed High-Fat Milk

Means the product obtained by the partial removal of water from cow or a buffalo skimmed milk or combination thereof by heat or by any other process which leads to a product of the same composition and characteristics. It may contain added calcium chloride, citric acid and sodium salts of orthophosphoric acid and polyphosphoric acid (as linear phosphate) not exceeding 0.3 percent by weight of the finished product. It shall conform to the following standards.

- |  |                            |
|--|----------------------------|
| (i) Milk fat                             | Not less than 16 percent   |
| (ii) Minimum milk solid not fat          | Not less than 14 percent   |
| (iii) Sugar                              | Not less than 40.0 percent |
| (iv) Milk protein in milk solids not fat | Not less than 34.0 percent |
| (v) Titratable Acidity (as Lactic Acid)  | Not less than 0.3 percent  |

## 01.2 Beverages/Tea Whiteners

It shall be sterilized /UHT. It may contain permitted food additives not exceeding permissible limits. There shall be written on the principal panel of the label just below the common name of product that the product is not recommended for infants. For labeling of tea whitener the label shall use 15% of total space to print in bold letters a statement in urdu on both side in prominent two colour letters **“Yay Doodh nahi hai”**. Furthermore, and “12 maah se kam ummar ke bacho kelieye nahi hai” milk products where vegetable fat is allowed as per these regulations shall follow strict food safety and labelling guidelines and pre qualification of raw material from the Punjab Food Authority. The name of vegetable fat (along partially hydrogenated/ un-hydrogenated) shall be mentioned on label and should comply the Food Safety Standards of Codex.

### 01.2.1 Liquid Tea Whitener

Means with 6.5 percent dairy or vegetable fat (Fit for human consumption), minimum 3.0 percent solid not fat (SNF) and other permissible food additives.

- (i) Turbidity test negative

### 01.2.2 Dried Milk Powder for Making Tea

It shall Conform to the Following Standards:

- |                           |                            |
|---------------------------|----------------------------|
| (i) Moisture              | Not more than 4.0 Percent  |
| (ii) Milk Fat             | Not less than 25.0 Percent |
| (iii) Milk protein in SNF | Not less than 25.0 percent |

It may contain permitted food additives not exceeding permissible limit but shall not contain any nondairy ingredients except sugar. The percentage of sugar shall be given on the principle panel of label in lettering not less than 14 just below the common name of food. There shall be written on the principal panel of the label just below the common name of product that the product is not suitable for baby.

### 01.2.3 Powder Tea Whitener

Shall contain minimum of 15 percent milk fat or vegetable fat minimum 30 percent milk solids not fat (SNF) and other permissible food additives.

### **01.3 Cream and Cream Analogues**

#### **01.3.1 Cream / Raw Cream**

Cream or raw cream means that portion of the milk of cow or buffalo which is rich in fat and rises to the surface of milk on standing or which has been separated by skimming or otherwise. Cream shall contain milk fat 20-40 percent.

#### **01.3.2 Homogenized/ Pasteurized/ Sterilized/ UHT**

Cream which has been heat treated and has been processed in such manners as to break up the globules of butter fat and cause them to remain uniformly distributed throughout the milk instead of rising to the surface. It shall not contain any added substances other than permitted food additives as per Codex. Cream shall contain milk fat 20-40 percent.

#### **01.3.3 High Fat Cream**

High fat cream means that portion of the milk of cow or buffalo which is rich in fat and rises to the surface of milk on standing or which has been separated by skimming or otherwise. High fat cream shall contain above 40 percent of milk fat and shall not contain any added substance except the permitted food additives as per Codex. The fat separated from cream shall conform to the standards of ghee (milk fat).

#### **01.3.4 Medium Fat Cream**

Medium fat cream means that portion of the milk of cow or buffalo which is rich in fat and rises to the surface of milk on standing or which has been separated by skimming or otherwise. Cream shall contain not less than 30 percent of milk fat and shall not contain any added substance except the permitted food additives as per Codex. The fat separated from cream shall conform to the standards of ghee (milk fat).

#### **01.3.5 Low Fat Cream**

Low fat cream means that portion of the milk of cow or buffalo which is rich in fat and rises to the surface of milk on standing or which has been separated by skimming or otherwise. Cream shall contain in between 15 to 20 percent of milk fat and shall not contain any added substance except the permitted food additives as per Codex. The fat separated from cream shall conform to the standards of ghee (milk fat).

#### **01.3.6 Flavored Cream**

Cream can have natural and nature identical flavor with rest of the standards of cream shall be followed. All permitted additives as per Codex shall apply.

#### **01.3.7 Sweetened Cream**

Cream can only be sweetened with sugar or natural sweeteners or artificial sweeteners while, rest of the standards of cream shall be followed. All permitted additives as per Codex shall apply.

#### **01.3.8 Balai/Malai**

Means the product rich in butter fat prepared by boiling and cooling cow or buffalo milk or a combination thereof. It shall contain not less than 20 percent milk fat.

### **01.3.9 Whipping Cream**

Whipping Cream is the fluid cream, reconstituted cream and/or recombined cream that is intended for whipping. When cream is intended for use by the final consumer the cream should have been prepared in a way that facilitates the whipping process. It shall have not less than 30 percent fat. Proper labelling guideline regarding declaration of vegetable or dairy fat percentage and source shall be labelled. Standards for additives shall be followed by as per Codex Standards.

### **01.3.10 Whipped Cream**

Whipped cream is the fluid cream, reconstituted cream and/or recombined cream into which air or inert gas has been incorporated without reversing the fat-in-skimmed milk emulsion.

### **01.3.11 Cream Packed Under Pressure**

Cream packed under pressure is the fluid cream, reconstituted cream and/or recombined cream that is packed with a propellant gas in a pressure-propulsion container and which becomes whipped cream when removed from that container.

### **01.3.12 Clotted Cream (plain)**

Thickened, viscous cream formed from the action of milk coagulating enzymes, includes sour cream (cream subjected to lactic acid fermentation achieved as described for butter milk).

### **01.3.12 (a) Sour Cream**

Sour cream results from the souring, by lactic acid producing bacteria, of pasteurized cream. Sour cream contains not less than 18 percent milk fat; except that when the food is characterized by the addition of nutritive sweeteners or bulky flavoring ingredients, sour cream shall have a titratable acidity of not less than 0.5 percent, calculated as lactic acid.

### **01.4 Cream Analogue:**

Cream substitute consisting of a vegetable fat-water emulsion in liquid or powdered form for use other than as a beverage whitener. It includes instant whipped cream toppings and sour cream substitutes. It shall have 20 to 40% fat. Cream analogues shall follow standards prescribed by Codex Alimentarius Commission 288-1976 revised in 2010.

All the cream analogues shall mention trans fat contents on the label. The label shall also mention source of vegetable oil(s) used in their descending order. Partially hydrogenated vegetable oil shall not be used in the production of these analogue products.

### **01.5 Milk Powder and Cream Powder**

**01.5.1** Cream powder means the product obtained by partial removal of water from cream obtained from milk of cow and / or buffalo. The fat and / or protein content of the cream may be adjusted by addition and/ or withdrawal of milk constituents in such a way as not to alter the whey protein to casein ratio of the milk being adjusted. It shall be of uniform colour and shall have pleasant taste and flavour and free from off flavour and rancidity. It shall also be free from vegetable oil/ fat, mineral oil, added flavour and any substance foreign to milk. It shall conform to the following requirements:

(i) Moisture	Not more than 5.0 percent
(ii) Milk fat	Not less than 42.0 percent
(iii) Milk Protein in SNF	Not less than 34.0 percent

**01.5.2 “Reconstituted milk”** means the homogenized product prepared from milk fat, non-fat milk solids and potable water. It shall conform to the following standards:

(i) Milk fat	Not less than 3.5 percent
(ii) Milk solids not fat	Not less than 8.9 percent
(iii) Total milk solids	Not less than 12.4 percent
(iv) Turbidity test	Negative

**01.5.3 Dried Milk, Milk Powder or Whole Milk Powder:**

It shall be the material prepared by spray drying or roller drying of pasteurized, homogenized milk obtained from cow or buffalo or a mixture thereof or by standardized milk by removal of water and may contain calcium chloride, citric acid and sodium citrate, sodium salts of orthophosphoric acid and polyphosphoric acid (as linear phosphate) with a degree of polymerization up to 6 units not exceeding 0.3 percent by weight and 0.01 percent of butylated hydroxyl-anisole (BHA) by mass of finished product. In case of instant full cream milk powder, it may also contain mono and di glycerides not exceeding 0.25 percent and lecithin not exceeding 0.5 percent. It may contain permitted anticaking agent as per Codex, either singly or in combination. It shall conform to the following standards:

(i) Moisture	Not more than 4.0 percent
(ii) Milk fat	Not less than 26.0 percent
(iii) Total milk solids	Not less than 95 percent
(iv) Ash on dry basis	Not more than 7.0 percent
(v) Milk protein of SNF	Not less than 34.0 percent
(vi) Solubility index	
(a) Roller dried	Not less than 85 percent
(b) Spray dried	Not less than 98 percent
(vii) Titrable acidity (as Lactic acid)	Not more than 1.0 percent

**01.5.4 Partly Skimmed Milk Powder**

It shall be the material prepared by spray drying of pasteurized, homogenized partly skimmed milk obtained from cow or buffalo or a mixture thereof and may contain calcium chloride, citric acid and sodium citrate, sodium salts of orthophosphoric acid and polyphosphoric acid (as linear phosphate) with a degree of polymerization up to 6 units not exceeding 0.3 percent by weight and 0.01 percent of butylated hydroxyl-anisole (BHA) by mass of finished product. It shall conform to the following standards:

(i) Moisture	Not more than 4.0 percent
(ii) Milk fat	Not less than 1.5 percent and not more than 26%
(iii) Total milk solids	Not less than 95 percent
(iv) Ash	Not more than 8.0 percent
(v) Milk protein of SNF	Not less than 34.0 percent
(vi) Solubility index	
(a) Roller dried	Not less than 85 percent

(b) Spray dried                      Not less than 98 percent

(vii) Titrable acidity (as Lactic acid)   Not more than 1.0 percent

**Note:** *The exact fat content shall be indicated on the label*

#### **01.5.5 Dried Skimmed milk or Nonfat Dried Milk Powder or Skimmed Milk Powder**

Means the products obtained from skimmed cow or buffalo milk or a combination thereof by the removal of water. It may contain added calcium chloride, citric acid and sodium citrate, sodium salts of orthophosphoric acid as linear phosphate not exceeding 0.3 percent by weight of finished product. It shall conform to the following standard.

(i) Moisture	Not more than 4.0 percent
(ii) Milk fat	Not more than 1.5 percent
(iii) Total milk solids	Not less than 95 percent
(iv) Ash	Not more than 9.0 percent
(v) Milk protein of SNF	Not less than 34.0 percent
(vi) Solubility index	
(a) Roller dried	Not less than 85 percent
(b) Spray dried	Not less than 98 percent
(vii) Titrable acidity (as Lactic acid)	Not more than 1.0 percent

The water content does not include water of crystallization of lactose; the milk solids-not-fat content includes water of crystallization of the lactose.

**Note:** *The following milk products are allowed for protein adjustment purposes.*

#### **01.5.6 Milk Retentate**

Milk Retentate is the product obtained by concentrating milk protein by Ultra-filtration of milk, partly skimmed milk or skimmed milk.

#### **01.5.7 Milk Permeate**

Milk permeate is the product obtained by removing milk proteins and milk fat from milk, partly skimmed, or skimmed milk by Ultra-filtration.

#### **01.6 Blend of Skimmed milk powder and vegetable fat in powdered form**

A blend of skimmed milk and vegetable fat in powdered form is a product prepared by the partial removal of water from milk constituents with the addition of edible vegetable oil, edible vegetable fat or a mixture thereof, to meet the compositional requirements. The product shall comply with the Codex Standards.

##### **01.6.1 Blend of Skimmed milk powder and vegetable fat in powdered form**

Minimum total fat 26% m/m

Maximum water 5% m/m

Minimum milk protein in milk solids-not-fat (MSNF) 34% m/m

### **01.6.2 Reduced fat blend of skimmed milk powder and vegetable fat in powdered form**

Total fat more than 1.5% and less than 26% m/m

Maximum water 5% m/m

milk protein in milk solids-not-fat(MSNF) 34% m/m

The milk solids-not-fat content includes water of crystallization of the lactose.

## **01.7 General standard for Cheese**

This standard is applicable to all products which fall within the definition of cheese and consumed either directly or further processed or use as ingredient in other food products. Standards for individual varieties of cheese, or groups of varieties of cheese which are more specific than those in this standard and in these cases, these specific provisions shall apply.

### **Description**

Cheese is the ripened or ripened soft, semi-hard, hard, or extra-hard product, which may be coated, and in which the whey protein/casein ratio does not exceed that of milk, obtained by:

(a) Coagulating wholly or partly the protein of milk, skimmed milk, partly skimmed milk ,cream, whey cream or buttermilk, or any combination of these materials, through the action of rennet or other suitable coagulating agents, and by partially draining the whey resulting from the coagulation, while respecting the principle that cheese-making results in a concentration of milk protein (in particular, the casein protein (in particular, the casein portion), and that consequently, milk materials from which the cheese was made; and/or

(b) Processing techniques involving coagulation of protein of milk and/or products obtained from milk which give an end-product with similar physical, chemical and organoleptic characteristics as the product defined under (a).

### **01.7.1 Ripened cheese**

Which is not ready for consumption shortly after manufacture but which must be held for such time, at such temperature and under such other conditions as will result in the necessary biochemical and physical changes characterizing the cheese in question.

#### **01.7.1.1 Mold Ripened cheese**

Cheese is a ripened cheese in which the ripening has been accomplished primarily by the development of characteristic mold growth throughout the interior and/or on the surface of cheese.

#### **01.7.2 Un-ripened Cheese**

Including fresh cheese is cheese which is ready for consumption shortly manufacture.

## **Composition and Quality Factors**

### **a. Raw materials**



Milk and/or products obtained from milk

## b. Permitted Ingredients

Starter cultures of harmless lactic acid and/or flavor producing bacteria and cultures of other harmless microorganisms. Safe and suitable enzymes from halal sources for coagulation and ripening i.e. use of rennet in any dairy food product shall be derived of microbial or animal sources and shall be Halal. Calcium chloride, sodium chloride and potassium chloride as a salt substitute and potable water. Citric acid, vinegar, emulsifiers, stabilizers and seasoning. Rice, corn, potato, flours and starches and can be used in the same function as anti-caking agents for treatment of the surface of cut, sliced, and shredded products only, provided they are added only in amounts functionally necessary as governed by GMP.

## C. Food Additives

Only those food additives listed below may be used and only within the limits specified. Additives not listed below but provided in the individual standards for varieties of ripened cheese may also be used for similar types of cheese within the limits specified within those standards.

### Colors

INS. No	Name	Maximum Level
100	Curcumins ( for edible cheese)	Limited by GMP
101	Riboflavins	Limited by GMP
140	Chlorophylls (for green marbled cheeses)	Limited by GMP
141	Copper Chlorophylls	15 mg/kg
160 A (I)	B-Carotene (synthetic)	25 mg/kg
160 A (ii)	Carotenes (natural Extracts)	600 mg/kg

### Annatto Extracts

Normal Coloured		10mg/kg (on bixin/norbixin basis)
Orange Coloured		25 mg/kg (on bixin/norbixin basis)
Deep Orange Coloured		50 mg/kg (on bixin/norbixin basis)
160	Paprika Oleoresins	Limited by GMP
160 E	B-apo-carotenal	35 mg/kg
160	Paprika Oleoresins	Limited by GMP
160	B-apo-8'-carotenoic acid, methyl or ethyl ester	35 mg/kg
162	Beet Red	Limited By GMP
171	Titanium Dioxide	Limited By GMP

### Preservatives

200	Sorbic Acid	3000 mg/kg calculated as sorbic acid
201	Sodium Sorbate	
202	Potassium Sorbate	
203	Calcium Sorbate	
234	Nisin	12.5 mg/kg
239	Hexamethylenetetramine (provolone only)	25mg/kg, expressed as formaldehyde
251	Sodium Nitrate	50 mg/kg, expressed as

252	Potassium Nitrate	NANO <sub>2</sub>
280	Propionic Acid	3000 mg/kg, calculated as propionic acid
171	Sodium Propionate	
282	Calcium Propionate	
1105	Lysozyme	Limited by GMP

**For Surface/Rind Treatment only**

200	Sorbic acid	1 g/kg singly or in combination, calculated as Sorbic Acid
202	Potassium sorbate	
203	Calcium Sorbate	
235	Pimaricin (Natamycin)	2 mg/dm <sup>2</sup> of surface Not present in a depth of 5m

**Miscellaneous Additives**

508	Potassium Chloride	Limited by GMP
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**Sliced, Cut, Shredded or Grated Cheese Anti-Caking Agents**

460	Celluloses	<b>Limited by GMP</b>
551	Silicon Dioxide, Amorphous	10,000 mg/kg singly or in combination, silicates calculated as silicon dioxide
552	Calcium Silicates	
553	Magnesium Silicates	
554	Sodium Aluminum Silicate	
555	Potassium Aluminum Silicate	
556	Calcium Aluminum Silicate	
559	Aluminum Silicate	
560	Potassium Sorbate	

**Acidity Regulators**

170(I)	Calcium Carbonate	Limited By GMP
260	Acetic Acid, Glacial	Limited By GMP
261(I)	Potassium Acetate	Limited By GMP
261(II)	Potassium Diacetate	Limited By GMP
262(I)	Sodium Acetate	Limited By GMP
263	Calcium Acetate	Limited By GMP
270	Lactic acid, L-, D- and DL-	Limited By GMP
296	Mallic Acid, DI	Limited By GMP

325	Sodium Lactate	Limited By GMP
326	Potassium Lactate	Limited By GMP
327	Calcium Lactate	Limited By GMP
330	Citric Acid	Limited By GMP
331(I)	Sodium Dihydrogen Citrate	Limited By GMP
332(II)	Potassium Dihydrogen Citrate	Limited By GMP
333	Calcium Citrates	Limited By GMP
334	Tartaric Acid L(+)	1500 mg/kg singly or in combination as Tartaric acid
335(I)	Monosodium Tartrate	1500 mg/kg singly or in combination as Tartaric acid
335(II)	Sodium L(+)-Tartrate	1500 mg/kg singly or in combination as Tartaric acid
336(I)	Monosodium Tartrate	1500 mg/kg singly or in combination as Tartaric acid
336(II)	Dipotassium Tartrate	1500 mg/kg singly or in combination as Tartaric acid
337	Potassium Sodium L(+) - Tartrate	1500 mg/kg singly or in combination as Tartaric acid
338	Phosphoric Acid	800 mg/kg as Phosphoric
350(I)	Sodium Di-malate	Limited By GMP
351(II)	Potassium Malate	Limited By GMP
352(I)	Potassium Hydrogen Malate	Limited By GMP
352(II)	Potassium Malate	Limited By GMP
500(I)	Sodium Carbonate	Limited By GMP
500(II)	Sodium Hydrogen Carbonate	Limited By GMP
501(I)	Potassium carbonate	Limited By GMP
501(II)	Potassium Hydrogen carbonate	Limited By GMP
504(I)	Potassium Carbonate	Limited By GMP
504(II)	Magnesium hydrogen Carbonate	Limited By GMP
507	Hydrochloric Acid	Limited By GMP
575	Glucono-delta-lactone	Limited By GMP
577	Potassium gluconate	Limited By GMP
578	Calcium Gluconate	Limited By GMP

#### (d) Contaminants

The products covered by this standard shall comply with the maximum levels for contaminants given below

##### i. Heavy Metals

The products covered by this standard shall comply with the following maximum limits

Sr. No.	Heavy metal	Maximum limit
i.	Arsenic (As) mg/kg	0.1
ii.	Lead (Pb) mg/kg	0.02
iii.	Mercury (Hg) mg/kg	1.0
iv.	Copper (Cu) mg/kg	5.0
v.	Zinc mg/kg	50
vi.	Tin (Sn) mg/kg	250
vii.	Cadmium (Cd) mg/kg	1.5
viii.	Iron(Fe) mg/kg	0.5

## ii. Pesticide Residues

The products covered by the provisions of these Regulations shall comply with those limits established by the Codex Alimentarius Commission if not specified in these regulations.

## iii. Mycotoxin Residues

All the cheese varieties should not have cytotoxic residues above the prescribed levels as per Codex Alimentarius Commission if not specified in these regulations.

## (e) Hygiene

It is recommended that the products covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the general principles of food hygiene for milk and milk products (CAC/RCP 57-2004) and other relevant Codex texts such as codes of hygienic practice. The products should comply with any microbiological criteria for foods 9CAC/GL 21-1997).

## (f) Labeling

In addition to the provisions of the general standard for the labeling of prepackaged foods (Codex Standard 1-1985) and the general standard for the use of dairy terms (Codex Standard 206-1999).

The following specific provisions apply:

### (i) Name of the Food:

In addition to the provisions of general standard for the labeling of prepackaged Foods (Codex Standard 1-1985) and the general standard for the used dairy terms (Codex standard 206-1999).

The following specific provisions apply:

The name of food shall be cheese. However, the word “cheese” may be omitted in the designation of individual cheese variety reserved by Codex Standard for individual cheeses, and, in the absence thereof, a variety name specified in the national legislation in which the products is sold, provided that the omission does not create an erroneous impression regarding the character, of food. In case the product is not designated with a variety name but with the designation “cheese” alone, the designation may be accompanied by the appropriate descriptive terms in following table.

### Designation According to Firmness and Ripening Characteristics

According to Firmness: Term 1		According to Principal Ripening: Term 2
MFFB%	Designation	
< 51	Extra Hard	Ripened
49-56	Hard	Mould Ripened
54-69	Firm/semi-Hard	Unripened/fresh
>67	Soft	In Brine

## ii. Declaration of Milk Fat content

The milk fat content shall be declared (i) as a percentage by mass, (ii) as a percentage of fat in dry matter, or (iii) in grams per serving as qualified in the label provide that number of serving is stated. Additionally, the following terms may be used

(i)	High fat	FDM > 60 %
(ii)	Full Fat	FDM ≥ 45% and < 60%
(iii)	Medium Fat	FDM ≥ 25% and < 25%
(iv)	Partially <u>S</u> kimmed	FDM > 10% and < 25%
(v)	Skim	FDM < 10%

## iii. Date Marking

The date of minimum durability need not be declared in the labeling of firm, hard and extra hard cheese which are not mould/soft-ripened and not intended to be purchased as such by the final consumer. In such cases the date of manufacture shall be declared.

## iv. Labeling of Non-Retail Containers

General standard for the labeling of prepackaged foods should be followed and if necessary, storage instructions shall be given either on the container or in accompanying documents, except that the name of product, lot identification, and the name and address of manufacturer or packer shall appear on the container, and in the absence of such a container on the cheese itself. However, lot identification and the name and address of the manufacturer or packer may be replaced by identification mark of milk, provided that such a mark is clearly identifiable with the accompanying documents.

### 01.7.3 Cheese varieties

Milk Constituent	Minimum Content (m/m)	Maximum Content (m/m)	Reference level (m/m)
Milk fat in dry matter	22%	Not Restricted	48% to 60%
Dry Matter	Depending on the fat in dry matter content, according to table below.		
	Fat in dry matter content (m/m)	Fat in dry matter content (m/m)	
	Equal to or above 22% but less than 30% but less than 40 %	49%	
	Equal to or above 30% but less than 40%	53%	
	Equal to or above 40% but less than 48%	57%	
	Equal to or above 48% but less than 60%	61%	
	Equal to or above 60%	66%	

#### 01.7.3.1 Cheddar cheese

Cheddar cheese: is a ripened hard cheese in conformity with the general standard for cheese (Codex standard 283-1978). The body has a near white or ivory through to light yellow or orange colour and a firm-textured (when pressed by thumb), smooth and waxy texture. Gas holes are absent, but a few openings

and splits are acceptable. The cheese is manufactured and sold with or without rind (outer covering) which may be coated.

#### 01.7.3.2 Paneer

Paneer is a heat-acid coagulated milk product obtained by coagulating milk with the permitted acids at specified temperature. The resultant coagulum is filtered to get the curd mass. Paneer has a firm, close, cohesive and spongy body and smooth texture. It shall not contain more than 70% moisture and milk fat content shall not be less than 50% of the dry matter. Low fat paneer shall contain no more than 70% moisture and not more than 15% milk fat on dry matter basis.

#### 01.7.3.3 Cream Cheese

Cream cheese is a soft, spreadable, unripen and rindless cheese in conformity with the standard for unripen cheese including fresh cheese (Codex Standard 221-2001) and the general standard for cheese (Codex standard 283-1978). The cheese has a near white through to light yellow colour. The texture is spreadable and smooth to slightly flaky and without holes, and the cheese spreads and mixes readily with other foods. This cheese should contain the following composition.

##### Composition

Milk Constituents	Minimum Content (m/m)	Maximum Content (m/m)	Reference Level (m/m)
Milk fat in dry matter	25%	Non- Restricted	60-70%
Moisture on fat free basis	67%	—	Not Specified
Dry Matter	22%	Restricted By MFFB	Not Specified

#### 01.7.3.4 Mozzarella Cheese

Mozzarella is an unripen cheese in conformity with the general standard for cheese (Codex Standard 283-1978) and the standard for unripen cheese including fresh cheese (Codex Standard 221-2001). It is a smooth elastic cheese with a long stranded parallel-orientated fibrous protein structure without evidence of curd granules. The cheese is rind less and may be formed into various shapes. Mozzarella with high moisture content is a soft cheese with overlying layers that may form pockets containing liquid of milky appearance. It may be packed with or without the liquid. The cheese has a near white colour. Mozzarella with low moisture content is a firm/semi-hard homogeneous cheese without holes and is suitable for shredding. Mozzarella is made by “pasta filata” processing, which consists of heating curd of a suitable pH, value kneading and stretching until the curd is smooth and free from lumps. Still warm, the curd is cut and molded, then firmed by cooling. Other processing techniques, which give end products with the same physical, chemical and organoleptic characteristics, are allowed.

##### a. Composition Requirements

Samples of shredded or diced, frozen mozzarella cheeses shall be taken prior to tempering.

- |       |          |   |
|-------|----------|---|
| (i)   | Milk fat | Not less than 45% on dry basis          |
| (ii)  | Moisture | More than 52% but not more than 60%     |
| (iii) | pH       | Not less than 5.1 and not more than 5.4 |

### Low-moisture Mozzarella Cheese

(i)	Milk fat	Not less than 45% on dry basis
(ii)	Moisture	More than 45% but not more than 52%
(iii)	pH	Not less than 5.1 and not more than 5.4

### Part-skim Mozzarella Cheese

(i)	Milk fat	Less than 45% but not less than 30% on dry basis	Moisture
(ii)	Moisture	More than 52% but not more than 60%	
(iii)	pH	Not less than 5.1 and not more than 5.4	

### Low-moisture Part-skim Mozzarella

(i)	Milk fat	Less than 45% but not less than 30% on dry basis	Moisture
(ii)	Moisture	More than 45% but not more than 60%	
(iii)	pH	Not less than 5.1 and not more than 5.4	Cheese

### Lite Mozzarella cheese

(i)	Milk fat	Not less than 10.8% on dry basis	Moisture
(ii)	Moisture	Not less than 52% and not more than 60%	
(iii)	pH	Not to exceed 5.3	

### 01.7.3.5 Edam Cheese

Edam is a ripened firm/semi-hard cheese in conformity with the general standard for cheese (Codex Stan 283-1978). The body has a near white or ivory through to light yellow or yellow color and a firm-textured (when pressed by thumb) texture, suitable for cutting, with few more or less round rice to pea sized (or mostly up to 10 mm in diameter) gas holes, distributed in a reasonable regular manner throughout the interior of the cheese, but few openings and splits are acceptable. The shape is spherical, of a flat block or of a loaf. The cheese is manufactured and sold with dry rind, which may be coated. Edam of flat block or loaf shape is also sold without rind. For edam ready for consumption, the ripening procedure to develop flavour and body characteristics is normally from 3 weeks at 10°C–18°C depending on the extent of maturity required. Alternative ripening conditions (including the addition of ripening enhancing enzymes) may be used, provided the cheese exhibits similar physical, biochemical and sensory properties as those achieved by the previously stated ripening procedure. Edam intended for further processing need not exhibit the same degree of ripening when justified through technical and/or trade needs.

Milk Constituent	Minimum	Maximum Content (m/m)	Reference level (m/m)
Milk fat in dry matter	22%	Not Restricted	48% to 60%
Dry Matter	Depending on the fat in dry matter content, according to table below.		
	Fat in dry matter content (m/m)		Fat in dry matter content (m/m)
	Equal to or above 30% but less than 40%		47%
	Equal to or above 40% but less than 45%		51%
	Equal to or above 45% but less than 50%:		55%
	Equal to or above 50% but		57%

	less than 60%:	
	Equal to or above 60%:	62%

#### 01.7.4 Processed Cheese

Means the product obtained by heating cheese with permitted emulsifiers and/or stabilizers namely citric acid, sodium citrate, sodium salts of orthophosphoric acid and polyphosphoric acid (as linear phosphate) with or without added condiments and acidifying agents namely vinegar, lactic acid, acetic acid, citric acid and phosphoric acid. Processed cheese may contain not more than 4.0 percent of anhydrous permitted emulsifiers and / or stabilizers, provided that the content of anhydrous inorganic agents shall in no case exceed 3.0 percent of the finished product. It shall not contain more than 47.0 percent moisture. The milk fat content shall not be less than 40.0 percent on the water free basis. Processed cheese may contain 0.1 percent sorbic acid or its sodium, potassium or calcium salts (calculated as sorbic acid) or 0.1 percent of nisin either singly or in combination. It may contain calcium chloride (anhydrous) not exceeding 0.02 percent by weight.

##### a. Raw Materials

Milk products rich in fat (e.g. butter, butter-oil, ghee, cream, cream powder), milk and milk products other than these (e.g. milk concentrates, buttermilk, milk powders, milk proteins, whey powders, lactose). Permitted ingredients sodium chloride, and potassium chloride as a salt substitute; water; safe and suitable processing aids; vinegar; lemon juice; cultures of harmless bacteria and enzymes; nutrients where allowed in accordance with the general principles for the addition of essential nutrients to foods (CAC/GL 9-1987).

##### b. Processed Cheese Spread

Means a product obtained by comminuting and mixing one or more types of hard cheeses into a homogenous, plastic mass with the aid of heat. It may or may not contain butter, cream and butter oil, milk, skimmed milk powder, cheese, whey, sweet butter milk or one or any of these from which part of water has been removed. It may also contain permitted emulsifying and stabilizing agents. It may contain one or more of the sodium/potassium salts of citric acid, phosphoric acid, tartaric acid, lactic acid in such quantities that mass of the solids of such emulsifying agents is not more than 4 percent of mass of the processed cheese spread. It may contain sequestering and buffering agents, namely, lactic acid, acetic acid, citric acid and phosphoric acid it may contain vegetable coloring matter such as annatto, carotene, permitted flavoring agents and milk coagulating enzymes with or without purified calcium chloride (anhydrous salt) and sodium citrate not exceeding 0.02 percent may be added. It may contain natural sweetening agents namely, sugar, dextrose, corn syrup, honey, corn syrup solids, maltose, malt syrup and hydrolyzed lactose in a quantity necessary for seasoning the spices and condiments. It may contain sodium chloride not exceeding 3 percent by weight. Processed cheese spread may contain sorbic acid or nisin or both to the maximum extent of 0.1 percent by weight. It shall not contain more than 60 percent moisture and milk fat content on dry basis shall not be less than 40 percent by weight.

#### 01.7.5 Cheese Analogues

Cheese analogue are cheese-like products formulated from ingredients, usually a form of casein powder known as rennet casein and a source of fat (often butter fat or a vegetable oil); cheese analogues are used mainly as ingredients in consumer-ready meals. Cheese analogues may be arbitrarily categorized as dairy, partial dairy, or non-dairy, depending on whether the fat and/or protein components are from dairy or vegetable sources partial dairy analogues, in which the fat is mainly vegetable oil (e.g., soya oil, palm oil, rapeseed, and their hydrogenated equivalents) and the protein is dairy based (usually rennet casein and/or casemate) are the most common. Non-dairy analogues, in which both fat and protein are vegetable



derived, have little or no commercial significance and to the authors' knowledge are not commercially available.

#### **01.7.6 Brie**

Brie is a soft surface ripened, primarily white mould ripened cheese, which has a shape of a flat cylinder or sectors thereof. The body has a near white through to light yellow colour and a soft-textured (when thumbs-pressed), but not crumbly texture, ripened from the surface to the center of the cheese. Gas holes are generally absent, but few openings and splits are acceptable. There shall not be less than 22 percent milk in dry matter.

#### **01.7.7 Danbo:**

Danbo is a ripened firm/semi-hard cheese. The body has a near white or ivory through to light yellow or yellow color and a firm-textured (when pressed by thumb) texture, suitable for cutting, with few to plentiful, evenly distributed, smooth and round pea sized (or mostly up to 10 mm in diameter) gas holes, but a few openings and splits are acceptable. There shall not be less than 40 percent milk in dry matter.

#### **01.7.8 Tilsiter**

Tilsiter is a ripened firm/semi-hard cheese. The body has a near white or ivory through to light yellow or yellow colour and a firm-textured (when pressed by thumb) texture suitable for cutting, with irregularly shaped, shiny and evenly distributed gas holes. The cheese is manufactured and sold with or without a well-dried smear-developed rind, which may be coated there shall not be less than 30 percent milk in dry matter.

#### **01.7.9 Camembert**

Camembert is a soft surface ripened, primarily mould ripened cheese, which has a shape of a flat cylinder or sectors thereof. The body has a near white through to light yellow colour and a soft-textured (when pressed by thumb), but not crumbly texture, ripened from the surface to the center of the cheese. Gas holes are generally absent, but few openings and splits are acceptable. There shall not be less than 30 percent milk in dry matter.

#### **01.7.10 Coulommiers**

Coulommiers is a soft, surface ripened, primarily mould ripened cheese which has a shape of a flat cylinder or sectors thereof. The body has a near white through to light yellow colour and a soft-textured (when pressed by thumb), but not crumbly texture, ripened from the surface to the center of the cheese. Gas holes are generally absent, but few openings and splits are acceptable. A rind is to be developed that is soft and entirely covered with white mould but may have red, brownish or orange coloured spots. There shall not be less than 40 percent milk in dry matter.

#### **01.7.11 Provolone**

Provolone is a ripened firm/semi-hard cheese. The body has a near white or ivory through to light yellow or yellow colour and a fibrous texture with long stranded parallel-orientated protein fibers. It is suitable for cutting and, when aged, for grating as well. Gas holes are generally absent, but few openings and splits are acceptable. There shall not be less than 45 percent milk in dry matter.

#### **01.7.12 Samos**

Samos is a ripened hard cheese. The body has a near white or ivory through to light yellow or yellow colour and a firm-textured (when pressed by thumb) texture suitable for cutting, with few to plentiful, evenly distributed, smooth and round pea to cherry sized (or mostly up to 20 mm in diameter) gas holes, but few openings and splits are acceptable. There shall not be less than 30 percent milk in dry matter.

#### **01.7.13 Saint-pauli**

Saint-pauli is a ripened firm/semi-hard cheese. The body has a near white or ivory through to light yellow or yellow colour and a firm textured (when pressed by thumb) but flexible texture. Gas holes are generally absent, but few openings and splits are acceptable. The cheese is manufactured and sold with or without a dry or slightly moist rind, which is hard, but elastic under thumb pressure, and which may be coated. There shall not be less than 30 percent milk in dry matter.

#### **01.7.14 Whole Milk Ricotta Cheese**

Whole milk ricotta cheese or whole milk ricotta shall mean cheese manufactured according to the following method: milk (which may be standardized and/or adjusted by a membrane filtration or evaporation process) and milk solids are mixed with an acidifying agent, the same being one or a mixture of two or more of the following: culture of harmless lactic acid-producing bacteria, a vinegar, fermented whey or acid whey powder (in an amount not to exceed 2.50 percent by weight of the total milk), lactic or citric acid, to which may also be added salt. Sufficient rennet may be added to set the milk and milk solids. The mixture is heated with the aid of direct steam injection until a temperature of about 180°F is reached, and it is held near that temperature until the curd separates. The curd is removed by skimming, or the whey is drained or siphoned off. Additional curd may be obtained from the whey by the further addition of an acidifying agent prescribed above, or by further heating or both. The curd may be whipped or beaten to obtain a finer texture. Such cheese shall contain not more than 80 percent moisture and not less than 11 percent milk fat in the finished product.

#### **01.7.15 Feta Cheese**

It shall conform to the standard of processed cheese except milk fat which shall be not less than 40 percent on dry basis and moisture shall be not less than 52 percent.

#### **01.7.16 Gouda Cheese**

Gouda Cheese means ripened semi hard cheese obtained by coagulating milk of cow and/ or buffalo or mixtures thereof with cultures of harmless lactic acid producing bacteria non-animal / rennet or other suitable coagulating enzymes. It shall have firm texture suitable for cutting, straw to yellowish colour and a hard rind which may be coated with food grade waxes, wrapping of cloth, or vegetable oil. It shall conform to the following requirements

- |                            |                            |
|----------------------------|----------------------------|
| (i) Moisture               | Not more than 43.0 percent |
| (ii) Milk Fat on Dry Basis | Not less than 48.0 percent |

#### **01.7.17 Havarti**

Havarti means ripened semi hard cheese obtained by coagulating milk of cow and / or buffalo or mixtures thereof with cultures of harmless lactic acid producing bacteria, non-animal rennet or other suitable coagulating enzymes. It shall have firm texture suitable for cutting, a light-yellow color and may have a semi soft slightly greasy rind. It shall conform to the following requirements

Requirements	Havarti	30% Havarti	60% Havarti
Moisture	Not more than 48.0 %	Not more than 48.0 %	Not more than 48.0 %

Milk fat on dry basis	Not less than 45.0 %	Not less than 45.0 %	Not less than 45.0 %
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#### 01.7.18 Whey Cheese

A solid or semi-solid product obtained by concentration of whey with or without the addition of milk, cream or other materials of milk origin, and moulding of the concentrated product. Includes the whole cheese and the rind of the cheese, different from whey protein cheese.

#### 01.7.19 Cottage Cheese

Means the soft uncured cheese prepared from the curd obtained by adding harmless lactic acid producing bacteria to pasteurized skimmed milk. It shall contain no more than 70 percent moisture.

#### 01.7.20 Fruit Cheese

Means the product prepared from pulp /puree of sound, ripe fruit(s), whether fresh, frozen or previously preserved or dry fruits, by cooking with salt, nutritive sweeteners to attain a thick consistency so that it sets on cooling. Cheese shall be neither too soft nor too hard to chew. It may be prepared from any of the suitable fruits, singly or in combination. It shall have the flavour of the original fruit(s) and shall be free from of objectionable flavors and crystallization. It shall meet the following requirement

Total soluble solids (m/m)      Not less than 65.0 percent

The product shall be manufactured from not less than 45 percent by weight, of original prepared fruit, exclusive of any added sugar or optional ingredients of finished product except where fruit is strawberry or raspberry where it shall contain not less than 25 percent fruit.

**01.8 Dairy desserts** Includes ready-to-eat dairy dessert products and dessert mixes, frozen dairy products, frozen yoghurt, junket (sweet custard-like dessert made from flavored milk set with rennet), milk product based pudding/dessert, kheer/ phirni or pheerni in semi-solid/drinkable forms, milk-based porridge, butterscotch pudding and chocolate mousse. Includes traditional milk-based sweets prepared from milk concentrated partially, from khoa (cow or buffalo milk concentrated by boiling), or chhanna /paneer /cottage cheese (milk - heat coagulated aided by acids like citric acid, lactic acid, malic acid, etc), sugar or intense sweetener, and other ingredients (e.g., maida (refined wheat flour), flavours and colours (e.g., pera, , milkcake, doda, malailaddoo, kalakand, gulabjmoon, rasgulla, rasmalai, basundi, chhanna-murki, rabri, other chhanna products). Ingredients used for manufacture of such products shall follow the standards described in these Regulations. Only permitted food additives with GMP and general provisions of sanitation and hygiene shall be observed. Dairy Desserts (e.g. Pudding, Fruit or Flavoured Yoghurt and others) shall conform to the following:

- a) No person shall import, prepare or advertise for sale or sell any Dessert, the flavour of which is indicated by the name of a fruit, unless the Dessert contains not less than 5 percent of that fruit, or the word "flavour" is conjoined in uniform lettering, with the name of the fruit.
- b) No picture of any fruit, or expression or device (other than the name of the fruit conjoined with the word "flavour") that indicates, suggests or implies the presence of a fruit pulp or fruit juice in any Dessert shall appear on the label of any package of ice cream until it does not contain at least 5 percent of the fruit pulp or fruit juice, as the case may be.
- c) It is mandatory to mention the milk fat percentage and the percentage of fruit pulp contents conforming to the legibility requirements on the label of the Dairy based Desserts.

### **01.8.1 Ice Cream, Fruit Ice Cream, Sundae Ice Cream, Malai-ki-baraf, Khoa-ki-baraf, Malai-ki-kulfi, Khoa-ki- kulfi, Kulfi, Milk Kulfi, Kulfa, Cone Ice Cream**

Means the pure clean frozen product made from a combination of milk or cream or butter or other milk products, with or without eggs, but with potable water, nutritive sweetening agents like sugar, dextrose, fructose, liquid glucose, dried liquid glucose, maltodextrin, invert sugar, honey, and harmless flavouring and harmless colouring, and with or without added stabilizer and emulsifier, and with or without fruits, vegetables, juices, nuts, coffee, cocoa or chocolate, syrup, cakes or confections. It shall conform to the following standards.

(i) Milk Fat	Not less than 10 percent
(ii) Total Solids	Not less than 36 percent
(iii) Milk solids not fat	Not less than 10.1 percent

Provided that when the ice cream contains fruit or nuts or both, the contents of milk fat may be reduced proportionally but not less than 8.0 percent of milk fat.

a) Ice cream ingredients shall be efficiently heat-treated either by being kept at temperature of not less than 69°C for at least 20 minutes, or not less than 74°C for at least 10 minutes, or not less than 80°C for at least 15 seconds or not less than 86°C for at least 10 seconds or other equivalent time-temperature relationship and then frozen afterwards.

b) The volume of air incorporated in ice cream shall be such that the weight per unit volume of the ice cream in its frozen condition shall be not less than 0.43 percent calculated as gram per milliliter.

c) Where fruit, chocolate or other food is added to ice cream, or cream is externally coated, the fruit, chocolate or other food, or coating, if it is capable of being readily separated for the purpose of analysis, shall be deemed to be not part of the ice cream for the purpose of determining the content of fat or the weight per unit volume.

d) No person shall import, prepare or advertise for sale or sell any ice cream, the flavour of which is indicated by the name of a fruit, unless the ice cream contains not less than 5 percent of that fruit pulp, or the word "flavour" is conjoined in uniform lettering, with the name of the fruit.

e) No picture of any fruit, or expression or device (other than the name of the fruit conjoined with the word "flavour") that indicates, suggests or implies the presence of a fruit pulp or fruit juice in any ice cream shall appear on the label of any package of ice cream until it does not contain at least 5 percent of the fruit pulp or fruit juice, as the case may be.

f) ) It is mandatory to mention the milk fat percentage and the percentage of fruit pulp contents conforming to the legibility requirements on the label of the Ice cream.

### **01.8.2 Khoya**

Means the product usually known as Khoya or by whatever name it is sold such as Khoya or Mawa or any other region specific popular name means the product obtained by partial removal of water from any variant of milk with or without added milk solids by heating under controlled conditions and it shall not contain any ingredient not found in milk. It shall conform to the following standards

(a) Raw materials:

Milk and milk powders, cream and cream powder and milk fat products.

(b) Composition:

The product shall conform to the compositional specifications provided in the table below:

Parameter	Khoa
Total milk solids, minimum, %, (m/m)	55
Milk fat, minimum, %, (m/m), dry matter basis	30
Total ash, maximum, %, (m/m)	6.0
Titrateable acidity (as % lactic acid), maximum, %	0.9

It shall be free from added starch and added sugar.

The extracted fat from Khoya shall meet the standards for Reichert Meissl value, Polenske value and Butyro-refractometer reading as prescribed for ghee.

**01.8.3 “Barfi” pera, kalakand**” means the sweetmeat prepared from khoya and sugar with or without other ingredients except starch. It shall conform to the following standards

Milk fat Not less than 10 percent

Milk solids not fat Not less than 18 percent.

**01.8.3.1 Sweetmeats/Mithai:** balushahi, gulabjamoon, rasgulla, laddu, halwa, casiene, rabbridoodh, falooda, butter milk, sheer khorma and mixes, Kheers, Besan ke laddu, jalebi etc shall not contain any non-permitted food additives including but not limited to artificial sweeteners unless sold and labeled as sugar free with permitted non-nutritive sweeteners, permitted food colours, and must not contain unacceptable levels of microorganisms, aflatoxin, heavy metal, and other noxious substances. Product manufacturing and storage shall comply with good hygiene practices. Ingredients used for manufacture of such products shall follow the standards described in these Regulations.

#### 1.8.4 Milk Ice or Milk Lolly

Means the product obtained by freezing a pasteurized mix prepared from milk and / or other products derived from milk with the addition of natural sweetening agents i.e. sugar, dextrose, fructose, liquid glucose, dried liquid glucose, malto dextrin, honey, fruit and fruit products, eggs and egg products, coffee, cocoa, ginger, and nuts. It may also contain chocolate, and bakery products such as cake or cookies as a separate layer and /or coating. It shall be free from artificial sweetener. It shall have pleasant taste and smell, free from off flavour and rancidity. It shall conform to microbiological prescribed requirements. It shall conform to the following requirements.

- |                            |                            |
|----------------------------|----------------------------|
| i. Total solids (m/m)      | Not less than 20.0 percent |
| ii. Milk fat (m/m)         | Not less than 2 percent    |
| iii. Milk protein (Nx6.38) | Not less than 3.5 percent  |

#### 1.9 Whey and Whey Products, Excluding Whey Cheeses

##### 01.9.1 “Whey Powder”

Means the product obtained by spray or roller drying sweet whey or acid whey from which major portion of milk fat has removed. Sweet whey means the fluid separated from the curd after coagulation of milk, cream, skimmed milk or butter milk in the manufacture of cheese, casein or similar products, principally with microbial or Halal animal source rennet enzymes. However, it shall not use any liquid and dry milk powders as an ingredient. The product may contain permitted food additives. It shall conform to the following standard.

(i)	Moisture	Not more than 5.0 percent
(ii)	Milk fat	Not more than 2.0 percent
(iii)	Milk protein	Not less than 10.0 percent
(iv)	Total ash	Not less than 9.5 percent
(v)	pH (in 10.0% Solution)	Not less than 10.0 percent
(vi)	Lactose content expressed (as anhydrous lactose)	Not less than 61.0 percent

It shall comply with the microbiological standards prescribed in these Regulations.

#### **01.9.2 Liquid Whey and Whey Products, Excluding**

Whey Cheeses Whey is the fluid separated from the curd after coagulation of milk, cream, skimmed milk or buttermilk with milk coagulating enzymes during the manufacture of cheese, casein or similar products. Acid whey is obtained after the coagulation of milk, cream, skimmed milk or buttermilk, mainly with acids of the type used for the manufacture of fresh cheese, includes sweet, acid and sour whey.

#### **01.9.3 Dried Whey and Whey Products, Excluding Whey Cheeses**

Whey powders are prepared by spray or roller drying sweet whey or acid whey from which the major portion of the milk-fat has been removed, also includes whey protein concentrates, isolates, de-mineralized whey protein concentrate/isolates.

#### **01.9.4 Frozen Dessert**

“Frozen Dessert” means the pure clean frozen product made from pasteurized mix prepared with the combination of milk and milk products, milk fat and / or edible vegetable protein products, with or without eggs, but with potable water, nutritive sweetening agents like sugar, dextrose, fructose, liquid glucose, dried liquid glucose, maltodextrin, high maltose, corn syrup, invert sugar, artificial sweeteners, honey, and harmless flavouring and colouring agents, with or without added stabilizer and emulsifier and with or without fruit and fruit products, juices, nuts, coffee, cocoa, oak, chocolate, syrup cakes and bakery products and / or confections. Frozen desert, by whatever name it is called, is further classified as:

- (a) “High Fat” shall contain not less than 36 percent of total solids and not less than 10 percent edible vegetable fat or oil.
- (b) “Medium Fat” shall contain not less than 30 percent of total solids and not less than 5.0 percent edible vegetable fat or oil.
- (c) “Low Fat” shall contain not less than 26 percent of total solids and not less than 2.5 percent edible vegetable fat or oil.

The word frozen dessert shall be conjoint with the name of product both in English and Urdu language in 10% of the area of the label on front side in uniform lettering. The labeling requirement shall be mandatory:

a) No person shall import, prepare or advertise for sale or sell any Frozen desserts, the flavour of which is indicated by the name of a fruit, unless the Frozen desserts contains not less than 5 percent of that fruit pulp, or the word “flavour” is conjoined in uniform lettering, with the name of the fruit.

b) No picture of any fruit, or expression or device (other than the name of the fruit conjoined with the word “flavour”) that indicates, suggests or implies the presence of a fruit pulp or fruit juice in any Frozen desserts shall appear on the label of any package of Frozen desserts until it does not contain at least 5 percent of the fruit pulp or fruit juice, as the case may be.

c) It is mandatory to mention the fat percentage and the percentage of fruit contents conforming to the legibility requirements on the label of the Frozen desserts.

**ANNEXURE-1**  
**Minimal Pasteurization Guidelines**  
**Standards and Procedures**

Minimum Pasteurization law shall come in force forthwith across all jurisdictions on July 2022.

**1.10. Guidelines/code of Practices for Milk Production**

**1.10.1.** These regulations provide the guidelines/code of practices/recommendations whichever more applicable for the technical and hygienic milk production at dairy farm level keeping in view the most important segments like registration of milk producers, feeding of milk producing animals, milking premises and procedures, animal-housing area, milking area, milk utensils, chemicals and drugs and cleanliness of milk personnel.

**(a). Registration of Milk Producers**

Every person or cooperative involved in milk production and/or milk pooling and selling of milk to the middle man/company for sale to the end consumer before pasteurization, shall, in the prescribed manner, obtain registration from the Punjab Food Authority, and shall facilitate the processor to know about the origin of milk for proper record keeping and traceability before and after pasteurization. The registration fee, by notification, will be fixed by the Punjab Food Authority.

**(b). Animal Health**

Milk producing animals must be disease free, but if diseased their milk must not be collected for human consumption. If symptoms of tuberculosis and brucellosis diseases and any other infectious diseases found in milk producing animals which have potential to be passed to humans through milk, their milk must be discarded. Such animals must be kept in quarantine areas till become completely fit after medical treatment. Also making sure that veterinary drug residues are no more in milk.

**(c). Feeding of Milk Producing Animals**

Feed must not contain harmful pathogenic organisms or other toxic substances, which have potential to be secreted in the milk at any level, ultimately may be deleterious to human health.

**(i). Feed Storage**

Feeds hall in ordinal manner shall not affect the environment in any way and storage area must be dry and clean. Milking area shall be separated from any feed room in which feed is ground or mixed, or in which sweet feed is stored. Any utensil, equipment being used in feedings hall must be kept clean and stored above the floor. Open feed dollies or carts may be used for distributing the feed, but not storing feed, in the milking area.

**(ii). Waste Feed Management**

Waste feed shall not be allowed to accumulate in animal housing area. Manure, soiled bedding and waste feed are not stored or permitted to accumulate there in such a manner to cause the soiling of cow's udder and flanks.

**(iii). Drinking Water**

Water for drinking should be fresh and clean with appropriate quality for the dairy farm animals. Surface water shall be used only when ground water sources are not available or are inadequate. Drinking water must be free from hazardous chemical elements and toxic substances.

## **(d) Milking Premises and Procedures**

### **(i) Animal-Housing Area**

It is interpreted to be that enclosed or unenclosed area in which the lactating animals reside. The animal-housing area be graded and drained and shall have no standing pools of water or accumulations of organic wastes. Cooling ponds shall be allowed provided not resulting in the visible soiling of flanks, udders, bellies and tails of lactating animals exiting the pond. The grading and drainage of the animal-housing area, as far as is practicable for manures and water shall be ensured. Lactating animals should not have access to piles of manure, in order to avoid the soiling of udders and the spread of diseases among dairy animals.

### **(ii) Milking Area and Milking Procedure**

Milking area, utensils and any other milking device should be clean and dry. Fowl shall be kept out of the milking area. Only articles directly related to milking activities shall be permitted in the area. Each milking area is provided with facilities for heating water in sufficient quantity and to such temperatures for the effective cleaning of all equipment and utensils where machine milking is being practiced in particular. All cleaning activities must be completed prior to milking. The hair on the udders shall be of such length that is not incorporated with the teat in the inflation during milking. The udders and teats of all milking lactating animals shall be clean and dry before milking. Teats shall be treated with a sanitizing solution just prior to the time of milking and shall be dry before milking at mega dairy farms (having more than 500 milking animals). Lactating animals which shows evidence of milk with abnormalities in one or more quarters, based upon clinical examination, shall be milked last or with separate equipment and the milk shall be discarded. Lactating animals producing contaminated milk, that is, lactating animals which have been treated with antibiotics, which are capable of being secreted in the milk, may be deleterious to the human health, shall be milked last or with separate equipment and the milk shall be discarded till the period mentioned on the label of the medicine (withdrawal period) given to the animal.

### **(iii) Milk Utensils**

All multi-use containers, utensils and equipment used in the handling, storage or transportation, or exposed to milk or milk products shall be made of smooth, impervious, nonabsorbent, safe materials of stainless steel food grade 314/316 L, corrosion-resistant, non-toxic materials, and shall be so constructed as to be easily cleaned. All milk contact surfaces of containers, utensils and equipment used in the handling, storage or transportation of milk shall be in good condition and are cleaned after each milking in batch operation and/or once every twenty-four hours for continuous operations. Multiple-use woven material shall not be used for straining milk. All single-service articles shall have been manufactured, packaged, transported and handled in a sanitary manner. Articles intended for single-service use shall not be reused. These utensils shall be relatively insoluble; do not release component chemicals or impart flavor or odor to the product; and which maintain their original properties under repeated use conditions. All joints in such containers, utensils and equipment are smooth and free from pits, cracks or inclusions. All milking machines, including heads, milk claws, milk tubing and other milk-contact surfaces can be easily cleaned and inspected. The milk contact surface in multi-use containers, equipment and utensils used in the handling, storage or transportation of milk shall be sanitized with enough hot water before each usage. When manual cleaning of product-contact surfaces is necessary, the cleaning shall be done in the milking area. There must be proper placement of equipment so that work areas at dairy farm are not overcrowded.

### **(iv) Chemicals and Drugs**

Cleaners and sanitizers shall be stored in properly identified, dedicated end-use containers. Animal drugs and drug administration equipment shall be stored in such a way that milk, milking equipment, wash vats and hand sinks are not subject to contamination. Animal drugs shall be properly labeled and segregated, lactating from non-lactating. Unapproved drugs shall not be used. Cleaners and sanitizers, used on dairy farms, shall be purchased in containers from the manufacturer or distributor, which properly identify the



contents or, if bulk cleaners and sanitizers are transferred from the manufacturer' to distributor' container, that the transfer only occurs into a dedicated end-use container, which is specifically designed, maintained and labeled according to the manufacturer's specifications for that specific product. The label on the dedicated end-use container shall include the product name, chemical description, use directions, precautionary and warning statement, first aid instructions, container storage and maintenance instructions and the name and address of the manufacturer or distributor. Equipment used to administer rugs is not cleaned in the wash vats and is stored so as not to contaminate the milk or milk-contact surfaces of equipment. Drugs shall be properly labeled to include the name and address of the manufacturer or distributor for over-the-counter drug, veterinary practitioner dispensing the product for prescription and extra label use drugs. If the drug is dispensed by a pharmacy on the order of a veterinarian, the labeling shall include the name of the prescribing veterinarian and the name and address of the dispensing pharmacy, and may include the address of the prescribing veterinarian. Drug labels shall also include directions for use, and prescribed with holding times; manufacturing and expiry dates; cautionary statements, if needed; and active ingredient(s) in the drug product. Unapproved and improperly labeled drugs are not used to treat dairy animals and are not stored at the dairy farm. Drugs are stored in such a manner that they cannot contaminate the milk or milk product-contact surfaces of the containers, utensils or equipment. Topical antiseptics and wound dressings, unless intended for direct injection into the teat, vaccines and other biologics, and dosage from vitamins and/or mineral products are exempt from labeling and storage requirements, except when it is determined that they are stored in such a manner that they may contaminate the milk or milk product-contact surfaces of containers, utensils or equipment.

#### **(v) Health and Cleanliness of Milker**

Adequate hand washing and drying facilities for milking personnel shall be provided essentially to minimize the likelihood of contamination of the milk, including a lavatory fixture with path to the dairy farm. Utensil with hand rinse vats shall not be considered as hand washing facilities. Milkers and bulk milk hauler/samplers shall wear clean clothes while milking or handling milk, milk containers, utensils, or equipment.

#### **1.10.2. Guidelines/code of Practices for Milk Storage or Pooling**

The Act provides guidelines/code of practices whichever more applicable for milk storage and pooling as under:

##### **(a) Raw Milk Handling**

Raw milk for pasteurization shall be cooled at a temperature not exceeding 6°C (43°F) within four hours or less, of the commencement of the first milking. This temperature must be maintained until pasteurization of milk performed process.

##### **(b) Storage Utensils**

Raw milk must be stored in cleaned and sanitized storage tank with temperature not exceeding 6°C (43°F) equipped with agitators. All openings, including valves and piping attached or to be attached to milk storage tanks, pumps or vats, shall be capped or otherwise properly protected.

##### **(c) Temperature Recording**

All storage tanks used for the storage shall be equipped with a calibrated temperature-recording device/digital thermometer. Temperature-recording records shall be maintained on the premises of milk storage for a period of a minimum of six months.

##### **(d) Cleaning of Storage Tank**

The milk storage/holding tank shall be cleaned and sanitized when empty and shall be emptied at least every seventy-two hours. All containers, utensils and equipment used in the handling, storage or transportation of milk shall be protected from contamination and must be clean and dry prior to use.

### **1.10.3. Guidelines/code of Practice for Milk Transportation**

The regulation provides guidelines/code of practice whichever more applicable for milk transportation as under

#### **(a) Milk Carrying Utensils/Tanks**

Pails, cans, tanks and other utensils containing milk must be properly covered during transportation from dairy farm to storage tanks. All such utensils of raw milk from individual dairy farms to storage tanks shall be identified by the name or number of the individual milk producer registered under Sub-section 3.1.1 during transportation. Ice addition in milk is not allowed throughout the supply chain.

#### **(b) Issuance of Certificate**

The processor will be liable to monitor the mechanical fitness and hygienic condition of the vehicle and on the basis of which a certificate will be issued on annual basis to individual tank/truck for transportation of milk. Transporter Company will be responsible to maintain the mechanical and hygienic condition of their vehicles during the validity of the certificate(s).

#### **(c) Information Available with Milk Tank Trucks**

All vehicles and milk tank trucks containing milk for processing must have the statement on the tank "milk for processing and not for sale" and shall have the document with the following information:

- (i) Shipper's name and address
- (ii) Milk tank truck registration number
- (iii) Weight of milk
- (iv) Temperature of milk when loaded
- (v) Date of shipment
- (vi) Analysis results including pH, fat, lactometer reading, adulteration test performed at the point of origin of shipment; and
- (vii) Seal number on inlet, outlet, wash connections and vents

#### **(d) Training of Milk Transport Personnel**

Personnel involved in the transport of milk must be trained and aware of the risks of mishandling of milk during transport. For the purpose, milk transporter/processor is obliged to organize appropriate trainings for them.

#### **(e) Milk Temperature During Transport**

Specified transportation the temperature of milk must be maintained not exceeding 8°C (46°F) throughout the transportation.

#### **(f) Standards and Procedures for Pasteurization of Milk**

The regulations provide standards for milk to be pasteurized and procedures for pasteurization of milk as under:

#### **(g) Milk to be pasteurized**

(i) Milk for pasteurization must comply with the definition of milk given in sub-section (a) of section (2) of this regulation. Abnormal, contaminated and undesirable milk must not be used for pasteurization.

(ii) Major quality tests (Temperature, pH, Acidity, Organoleptic, APT, COB, Fat, SNF, Urea, Formalin, Glucose, Sucrose, Sorbitol, Salt, Starch, Detergents, Hydrogen per oxide, Hydrogenated oil, Ammonium

Sulphate, Aflatoxin, Whey protein and Antibiotics) must be performed prior to pasteurization and keep the record for these analysis. The values for all above parameters are given in table below.

(i)	pH	6.60 - 6.90
(ii)	Acidity	0.18% Maximum
(iii)	Sodium	580mg/100g SNF Maximum
(iv)	Organoleptic	Clean (no foreign body), white to light yellow in color, no curdling, no off flavor, no off taste and no oily layer
(v)	APT	Negative at 60%
(vi)	COB	Negative
(vii)	Formation	Negative
(viii)	Glucose	Negative
(ix)	Sucrose	Negative
(x)	Starch	Negative
(xi)	Sorbitol	Negative
(xii)	Antibiotics	Negative
(xiii)	Aflatoxin	Not more than 5µg/liter

(iii) For total viable bacterial count at 30°C at least two samples per month with an arithmetic average of the two months will be taken into account, whereas for somatic cell count at least one sample per month with an arithmetic average of the three months will be taken into account.

(iv) Raw milk must meet the following standards for TPC and somatic cell counts:

	Year-wise	Total count (per mL)
Total Number of Viable Bacteria 30°C	1 <sup>st</sup> Year	≤6000 000
	2 <sup>nd</sup> Year	≤5000 000
	3 <sup>rd</sup> Year	≤4000 000
	4 <sup>th</sup> Year	≤3000 000
	5 <sup>th</sup> Year	≤1000 000
Somatic Cell Count (per mL)		≤750 000

### 1.11.0 Procedures for Sampling of Milk

Samples may be taken at any time and at any place subject to the following conditions.

#### (a) Sampling of Raw Milk

- Sampling shall be done by an officer having mandate to do so.
- When the milk is in containers not exceeding one kilogram in capacity, the sample shall consist of one such container which shall be delivered intact to The Public Analyst or authorized laboratory.
- When the milk is in containers exceeding one kilogram in capacity it shall be thoroughly stirred before sampling, and the sample shall be taken from well below the surface of the milk.
- The instruments used for stirring and sampling shall be sterile.
- The sample shall be poured into a sterile bottle and shall be capped with sterile lid immediately.
- The bottle or other container containing the sample shall be transferred forthwith to an insulated container for transport to the Public Analyst or authorized laboratory.

(vii) A sample shall be transported to the testing laboratory with the least possible delay and shall be delivered to the Public Analyst on the day on which it is taken. If the sample does not arrive on the same day it shall be discarded.

(viii) The Food Safety Officer/ Assistant Food Safety Officers who procures a sample of raw milk, shall forthwith divide the same into three parts and shall deliver or forward one of the parts to the person from whom the sample is procured, shall send or submit the second part to the Punjab Food Authority for future comparison, and shall submit the third part to the Public Analyst for analysis.

#### **(b) Sampling of Pasteurized Milk**

(i) Sampling shall be done by Food Safety Officer/ Assistant Food Safety Officers or officer having mandate to do so.

(ii) The Food Safety Officer/ Assistant Food Safety Officers who procures a sample of pasteurized milk, shall take 3 packs and shall deliver or forward one of the pack to the person from whom the sample is procured, shall send or submit the second pack to the Punjab Food Authority for future comparison, and shall submit the third pack to the Public Analyst for analysis.

(iii) The sample must be analyzed within the shelf life of the pasteurized milk mentioned on the packs.

#### **1.12. Standards for Pasteurized Milk Marketing.**

These regulations provide the standards for marketing of pasteurized milk as under:

(i) All the pasteurized milk will be sold in packaged form.

(ii) Labeling requirements for pasteurized milk must comply with the labeling requirements of Punjab Pure Food Regulations, 2018.

(iii) The pasteurized milk must be kept at temperature not exceeding 6°C (43°F) till the sale to end consumer.

#### **1.13. Enforcement Mechanism of the Regulations**

Powers and functions of food safety officer who will play key role in enforcement of these regulations are mentioned in Punjab Food Authority act, 2011. The other information regarding enforcement mechanism of pasteurized milk regulations are as under:

##### **(a) Licensing of pasteurization business**

No place shall be used and no person shall commence or carry on milk pasteurization except under a prescribed license: provided that the Punjab Food Authority may exempt any premises or milk processor from the operation of this section, by notification separately.

##### **(b) Licensing Fee or Renewal Fee**

(i) The Punjab Food Authority shall, by notification, fix the amount of fee for registration of the pasteurized milk business, issuance of licenses or renewal thereof under these regulations.

(ii) The Director General shall charge and the applicant shall pay the fee fixed by the Punjab Food Authority through proper channel.

##### **(c) Improvement Notice**

(i) If Food Safety Officer has reasons to believe that milk processor has failed to comply with any provisions of the act or regulations made there under, he may, by an improvement notice served on milk processor

- (a) State the grounds for believing that the milk processor has failed to comply with any provisions of the Act or regulations made there under;
- (b) Specify the matters which constitute the milk processor failure so to comply
- (c) Specify the measures which, the milk processor must take, in order to secure compliance with the relevant provisions of the law.
- (ii) If milk processor fails to comply with an improvement notice, his license may be suspended or cancelled.

#### **(d) Prohibition Orders**

If any milk processor is convicted of an offence under this Act or Regulations made there under and the convicting court is satisfied that the health risk exists with respect to the improper pasteurized milk, the court, may impose the following prohibitions, namely:

- (a) A prohibition on the use of a process, treatment, premises or equipment for the purposes of the pasteurization of milk; or
- (b) A prohibition on milk processor participating in the management of pasteurized milk prescribed in the order.

#### **(e) Emergency Prohibition Orders**

- (i) If Food Safety Officer is satisfied that the health risk condition exists with improper pasteurized milk, he may, after serving a notice on the milk processor, by an order, impose the emergency prohibition against carrying out pasteurization of milk.
- (ii) Any person, who is aggrieved by any action taken by Food Safety Officer, may appeal, as prescribed in the regulations, to the Director General whose decision thereon, shall be final.

#### **(f) Pasteurized Milk Recall Procedures**

- (i) If the Director General has reasons to believe that pasteurized milk is not in compliance with these Regulations, he shall order the immediate withdrawal of the pasteurized milk in question from the market indicating reasons for its withdrawal.

### **1.14. Distribution and Sale of Loose Milk:**

The distribution and sale of loose milk/un pasteurized shall be discouraged and subsequently shall be completely banned within 05 years from the date of notification of Punjab Pure Food Regulations, 2017.

### **1.15. Establishment of laboratories**

The Punjab Food Authority may establish and accredit specific laboratories for the purposes of carrying out analysis of milk samples under this Act or Regulations made there under.

#### **(i) Public Analysts**

The Punjab Food Authority may appoint Public Analysts, having the qualifications prescribed by the regulations

#### **(ii) Publication of Names of Licensed Milk Processors**

The Punjab Food Authority shall publish an annual list of licensed milk processor along with their postal addresses on the official website of the Punjab Food Authority.

### Annex: Microbiological Limits of Dairy Products

Product/ Food	Microbial Limits						
	TPC (CFU/ mL or g)	<i>Staph Aureus</i> (CFU/ mL or g)	Coliform (CFU/ mL or g)	Fecal Coliform (CFU/ mL or g)	<i>E.coli</i> (CFU/ mL or g)	<i>Listeria monocytogens</i> (CFU/25mL or g)	<i>Salmonella</i> (CFU/25mL or g)
Milk (Liquid)	<50000	<100	<10	<10	<10	Absent	Absent
Milk Powders	<50000	<100	<10	<10	Absent	Absent	Absent
Cheese	<50000	<100	<10	<10	Absent	Absent	Absent
Butter	<50000	<100	<10	<10	Absent	Absent	Absent
Yogurt	N/A	<100	<10	<10	Absent	Absent	Absent
Ice Cream	<50000	<100	<10	<10	Absent	Absent	Absent
Cream	<50000	<100	<10	<10	<10	Absent	Absent
Whey Powder	<50000	<100	<10	<10	Absent	Absent	Absent

**Note:** Other similar dairy products would conform to the standards given in table.

## CHAPTER 2

### 02.0 Fats, Oils and Fat Emulsions

Edible oil and fat means any food composed of glycerides of fatty acids of vegetable and milk fat obtained from Halal animal origin.

#### 02.1 Fats and Oils Essentially Free from Water

Edible fats and oils are foods composed mainly of triglycerides of fatty acids from vegetable, animal or marine sources.

#### Desi Ghee, Butter oil, Anhydrous Milk fat

##### 2.1.1 “Desi Ghee”

Desi Ghee is a product exclusively obtained from milk, cream or butter by means of processes which result in almost total removal of water and non fat solids, with an especially developed flavor and physical structure. It shall be free from added color, flavor or other additives. It shall conform to the following standards.

Characteristics	Requirements
Moisture	Not more than 0.5%
Acid value	
Milk fat	Not less than 99.5%
Peroxide value (Mill-equivalent of oxygen/kg fat)	-
Free fatty acid as Oleic Acid	Note more than 3%
Polenske value	-
Butyro-Refractometer Reading at 40°C	40.0 to 43.0
Reichert Meissl value	Not less than 26
Kirschner value	-
Baudouins test	Negative

##### 2.1.2 Milk fat, Butter oil, Anhydrous Milk Fat and Anhydrous Butter oil

These are fatty products derived exclusively from milk and its products obtained from milk by means of processes which result in almost total removal of water and non-fat solids. Milk fat, butter oil, anhydrous milk fat and anhydrous butter oil shall conform to the following respective standards:

Characteristics	Requirements
Moisture	Butter oil not more than 0.4%, anhydrous milk fat and anhydrous butter oil not more than 0.1 percent
Acid value	Not more than 4.0 mg KOH/g oil.
Milk fat	Butter oil, milk fat not less than 99.6 percent Anhydrous milk fat 99.8 percent
Peroxide value	Not more than 0.3 milli equivalents for Anhydrous milk fat and Anhydrous butter oil. Not more than 0.6 milli equivalents for milk fat and butter oil.
Free fatty acid	Anhydrous milk fat and Anhydrous butter oil not more than 0.3 percent butter oil, milk fat 0.4 percent
Polenske value	Not more than 2.8
Butyro-Refractometer Reading at 40°C	40.0 to 44.0
Reichert value	Not less than 26
Kirschner value	Not less than 24.0
Baudouins test	Negative

## Contaminants

Metals	Maximum Level
Copper (Cu)	0.05 mg/kg
Iron (Fe)	0.2 mg/kg

Provided that where an analyst finds minor variations in the specifications, the analyst may perform additional tests to approach correct assessment of the quality of specimen such as for various oils and fats, phytosteryl acetate test, critical temperature of dissolution, ultra violet fluorescence test and fatty acid profile (GLC) etc.

## 02.2 Vegetable Oils and Fats

In case of blended vegetable oil or fat where the blend is marketed or sold as a unique blend or brand name or is claimed to have special benefits as can be ascribed by its name (such as a combination word derived from more than one oil or fat sources) or is claimed to have any benefits to be derived from such combination the percentage of lower fraction of such combination shall not be less than 15 per cent.

It is mandatory that where different oils are used in blended oils their list must be labeled in descending order. It shall be mandatory for all the vegetable fats and oils including margarines and shortenings, cooking oils/blends to be used for edible purpose be fortified with following:



Characteristics	Requirements
Vitamin A	Minimum 33,000 IU/kg to Maximum 45,000 IU/kg
Vitamin D	Minimum 3000 IU/kg to Maximum 4500 IU/kg

All fats and oils product must also conform to the following standards:

Characteristics	Requirements
Iron (Fe)	Not more than 1.5 percent mg/kg. (2.5mg/kg in refined oils, 5.0mg/kg in virgin- and cold pressed oils & fats (Codex General Standards)
Copper (Cu)	Not more than 0.1 mg /kg(for virgin & cold pressed oils & fats (0.4 mg/kg)
Lead (Pb)	Not more than 0.1 mg/kg
Arsenic (As)	Not more than 0.1 mg/kg

Hexane in these products must not be more than 5ppm

The **Net weight** of different approved packings of oils and fats shall follow the following weight/volume limits:

Sr. No.	Ghee Banaspati	Cooking Oil
1.	16 Kg	16 Liter
2.	10 Kg	10 Liter
3.	5 Kg	5 Liter
4.	2.5 Kg	3 Liter
5.	1 Kg	1 Liter
6.	500 Grams	500 mL

## 02.2.1 Edible Oils, Fats (Halal and Allied Products):

### 02.2.1.1 Refined Blended Vegetable Oils/ Refined Cooking Oils

By whatever name it is called, means blending of permissible refined vegetable oils for which standards have been laid down in these Regulations. It shall be refined, bleached and deodorized, and shall be free from rancidity, adulterants, sediments, suspended and other foreign matter, separated water, added coloring and flavoring matter and mineral oils. It shall have acceptable taste and odour. It shall not contain palm oil/ palmolein.

It shall conform to the following standards:

Characteristics	Requirements
Moisture	Not more than 0.1 percent
Free fatty acids (as Oleic Acid)	Not more than 0.20 mg KOH/g

Unsaponifiable matter	Not more than 0.5 percent
Peroxide Value	Not more than 10 milli equivalents of oxygen/kg oil
Rancidity (kreis Test)	Below 3R in one inch cell on Lovibond scale
Cloud Point	Below 10 °C
Iodine value	Not less than 80
Saponification value	185-196 mg KOH/g
Flash point °C (Pensky Marten Closed Method)	Not less than 250 °C
Colour index in one inch cell	R=5.0 Y=50.0

### 02.2.1.2 Virgin Oils

Are obtained without altering the nature of the oil, by mechanical process, e.g. expelling or pressing and the application of heat only. They may have been purified by washing with water, settling, filtering and centrifuging only. Virgin oils are suitable for consumption in the natural state. Cold pressed oils are obtained without altering the oil, by mechanical procedures only, e.g. expelling or pressing, without application of heat. They may have been purified by washing with water, settling, filtering and centrifuging only.

### 02.2.1.3 Cotton Seed Oil (Binola Ka Tel)

Means the oil obtained from clean, sound and decorticated cotton seeds of the cultivated species of Gossypium, refined and dehydrated. It shall be clear, free from rancidity, suspended or other foreign matter, separated water, added coloring or flavoring substances or mineral oils. It shall conform to the following standards:

Characteristics	Requirements
Moisture	Not more than 0.1%
Refractive index (at 40 °C)	1.4556- 1.4660
Saponification value	190-198 mg KOH/g
Iodine value (Wijs)	103 to 115
Acid value	Not more than 0.5% mg KOH/g
Unsaponifiable matter	Not more than 1.5% as per Codex
Rancidity (Kreis test) in 1" cell on Lovibond Scale	Below 1.5 R
Peroxide value	Not more than 10 milli equivalents of oxygen/ kg oil.
Halphen test	Postive
Bellier test (turbidity Temperature Acetic Acid Method)	19°C- 21°C
Free fatty acids (as Oleic Acid)	Not more than 0.20 mg KOH/g

There shall be no Turbidity after keeping filtered sample at 30°C for 24 hours.

GLC ranges of fatty acid composition (percent)

Fatty Acids	Range
C < 14	<0.1
C 14:0	0.4-2.0
C 16:0	17 – 31
C 16:1	0.5 - 2.0
C 18:0	1.0 - 4.0
C 18:1	13 – 44

C 18:2	33 – 59
C 18:3	0.1 - 2.1
C 20:0	<0.7
C 20:1	<0.5
C 22:0	<0.5
C 22:1	<0.5
C 24:0	<0.5

## Contaminants

Characteristics	Requirements
Matter volatile at 105°C	Not more than 0.2%
Insoluble impurities	Not more than 0.05% <i>m/m</i>
Soap content	Not more than 0.005% <i>m/m</i>
Iron (Fe)	Not more than 1.5 mg/kg%
Copper (Cu)	Not more than 0.1mg/kg
Lead (Pb)	Not more than 0.1mg/kg
Arsenic (As)	Not more than 0.1m/kg

### 02.2.1.4 Groundnut Oil (Mong Phali Ka Tel)

Means the oil obtained from the seeds of peanut, groundnut (*Archis hypogoea*). It shall be clear, free from rancidity, suspended or other foreign matter, separated water, added coloring or flavoring substances or mineral oils. It shall conform to the following standards

Characteristics	Requirements
Moisture	Not more than 0.25%
Refractive index(at 40°C)	1.460 - 1.465
Saponification value	188 - 195 mg KOH /g
Iodine value (Wij's)	84 – 100
Acid value	Not more than 6.0 mg KOH/g
Unsaponifiable matter	Not more than 1.0%
Rancidity (kreis test) in one inch cell on Lovibond Scale	Below 1.5 R
Peroxide value	Not more than 10 milli equivalents of oxygen/ kg oil.
Belier test (turbidity temperature acetic acid method)	39 - 41°C
Color index in one inch cell on lovibond scale (Y + 10R)	Not deeper than 30
Free fatty acids (as Oleic Acid)	not more than 0.20 mg KOH/g

## GLC ranges of fatty acid composition (percent)

Fatty Acids	Range
C < 14	<0.4
C 14:0	<0.6
C 16:0	6.0-16
C 16:1	<1.0
C 17:0	<0.1
C 17:1	<0.1
C 18:0	1.3-6.5
C 18:1	35-72
C 18:2	13 - 45
C 18:3	<0.3
C 20:0	1.0-3.0
C 20:1	0.5-2.1
C 22:0	1.0-5.0
C 22:1	<0.3
C 24:0	0.5-3.0

Characteristics	Requirements
Matter volatile at 105°C	Not more than 0.2% <i>m/m</i>
Insoluble impurities	Not more than 0.05% <i>m/m</i>
Soap content	Not more than 0.005% <i>m/m</i>
Iron (Fe)	Not more than 1.5mg/kg
Copper (Cu)	Not more than 0.1mg/kg
Lead (Pb)	Not more than 0.1mg/kg
Arsenic (As)	Not more than 0.1mg/kg

### 02.2.1.5 Sesame Oil or (Til Oil)

Means the oil obtained from til seed (*Sesamum indicum*) black, brown, white or mixed. It shall be clear, free from rancidity, suspended or other foreign matter, separated water, added coloring or flavoring substances or mineral oils. It shall conform to the following standards:

Characteristics	Requirements
Moisture	Not more than 0.25%
Refractive index(at 40°C)	1.4646- 1.4667
Saponification value	188 – 193 mg KOH /g
Iodine value (Wij's)	105 – 115
Acid value	Not more than 4.0 mg KOH/g
Unsaponifiable matter	Not more than 1.5%

Baudouin's test	Positive
Rancidity (kreis test) in one inch cell on Lovibond Scale	Below 1.5 R
Peroxide value	Not more than 10 milli equivalents of oxygen/ kg oil.
Belier test (turbidity temperature acetic acid method)	Not more than 22°C
Free fatty acids (as Oleic Acid)	Not more than 0.20mg KOH/g

#### GLC Ranges of Fatty Acid Composition (percent)

Fatty Acids	Range
C < 14	<0.1
C 14:0	<0.5
C 16:0	7.0-12
C 16:1	<0.5
C 18:0	3.5 - 6.0
C 18:1	35 - 50
C 18:2	35 - 50
C 18:3	<0.1
C 20:0	1.0
C 20:1	<0.5
C 22:0	<0.5
C 22:1	<0.5

Characteristics	Requirements
Matter volatile at 105°C	Not more than 0.2% m/m
Insoluble impurities	Not more than 0.05% m/m
Soap content	Not more than 0.005% m/m
Iron (Fe)	Not more than 5.0 mg/kg
Copper (Cu)	Not more than 0.4 mg/kg
Lead (Pb)	Not more than 0.1 mg/kg
Arsenic (As)	Not more than 0.1 mg/kg

#### 02.2.1.6 "Olive Oil"

**Olive oil** is the oil obtained solely from the fruit of the olive tree (*Olea europaea* L.), to the exclusion of oils obtained using solvents or re-esterification processes and of any mixture with oils of other kinds. It shall be clear, free from rancidity, suspended or other foreign matter, separated water, added coloring or flavoring substances or mineral oils.

Olive oil is the oil consisting of a blend of refined olive oil and virgin olive oil and virgin olive oil fit for consumption as they are. It has a free acidity, expressed as oleic acid, of not more than 1 gram per 100 grams and its other characteristics correspond to those fixed for this category in this standard.

Oil shall be clean free from rancidity suspended or other foreign matter, separated water and added coloring or flavoring substances.

It shall conform to the following standards.

Characteristics	Requirements
Moisture	Not more than 0.1%
Refractive index(at 40°C)	1.4646- 1.4667
Saponification value	185 – 196 mg KOH /g
Iodine value (Wij's)	78 – 90
Acid value	Not more than 4.0 mg KOH/g
Unsaponifiable matter	Not more than 1.5%
Baudouin's test	Positive
Rancidity (kreis test) in one inch cell on Lovibond Scale	Below 1.5 R
Peroxide value	Not more than 10 milli equivalents of oxygen/ kg oil.

#### GLC Ranges of Fatty Acid Composition (percent)

Fatty Acids	Range
Lauric Acid C 12:0	Traces
Myristic Acid C 14:0	<0.1
Palmitic acid C 16:0	7.5-2.0
Palmitoleic acid C 16:1	0.3-3.5
Heptadecenoic acid C 17:0	<5
Stearic acid C 18:0	0.5- 5.0
Oleic acid C 18:1	55.0 – 83.0
Linoleic acid C 18:2	3.5 – 21.0
Linolenic acid C 18:3	<1.5
Arachidic acid C 20:1	0.8
Behanic acid C 22:0	<0.3
Erucic acid C 22:1	Traces
Lignoceric acid C 24:0	<1.0

#### Contaminants

Characteristics	Requirements
Matter volatile at 105°C	Not more than 0.2% <sub>m/m</sub>
Insoluble impurities	Not more than 0.05% <sub>m/m</sub>
Soap content	Negative
Iron (Fe)	Not more than 5.0 mg/kg
Copper (Cu)	Not more than 0.4 mg/kg
Lead (Pb)	Not more than 0.1 mg/kg

Arsenic (As)	Not more than 0.1 mg/kg
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It is marketed in accordance with the following designations and definitions:

#### 02.2.1.6.1 Virgin Olive Oil

Means the oil obtained from the fruit of the olive tree by mechanical or other physical means under conditions, particularly thermal, which do not lead to alteration of the oil. Virgin olive oil is suitable for consumption in the natural state without refining. It shall be clear, yellow to green in color, with specific odor and taste, free from odors or tastes indicating alteration or pollution of oil. It shall be free from rancidity, suspended or other foreign matter, separated water, added coloring or flavoring substances or mineral oil.

Virgin Olive oils fit for consumption as they are include:

- i. Extra virgin olive oil: virgin olive oil which has a free acidity, expressed as oleic acid, of not more than 0.8 grams per 100 grams, and the other characteristics of which correspond to those fixed for this category in this standard.
- ii. Virgin olive oil: virgin olive oil which has a free acidity, expressed as oleic acid, of not more than 2 grams per 100 grams and the other characteristics of which correspond to those fixed for this category in this standard.
- iii. Ordinary virgin olive oil: Virgin olive oil which has a free acidity, expressed as oleic acid, of not more than 3.3 grams per 100 grams and the other characteristics of which correspond to those fixed for this category in this standard.
- iv. Virgin olive oil not fit for consumption as it is, designated lampante virgin olive oil, is virgin olive oil which has a free acidity, expressed as oleic acid, of more than 3.3 grams per 100 grams and/or the organoleptic characteristics and other characteristics of which correspond to those fixed for this category in this standard. It is intended for refining or for technical use.

#### 02.2.1.6.2 Refined Olive Oil

Means the oil obtained from virgin olive, the acid content and or organoleptic characteristics of which render it unsuitable for consumption in the natural state, by means of refining methods which do not lead to alterations in the initial glyceridic structure. It shall be clear, limpid without sediment, yellow in color, without specific odor or taste and free from odors or taste indicating alteration or pollution of oil. It shall be free from rancidity, suspended or other foreign matter, separated water, added coloring or flavoring substances or mineral oil. Further, if the oil is obtained by the method of solvent extraction and the oil imported in Pakistan whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining. The oil so refined shall not contain hexane more than 5.00 ppm.

Refined olive oil is the olive oil obtained from virgin olive oils by refining methods which do not lead to alternations in the initial glyceridic structure. It has a free acidity, expressed as oleic acid, of not more than 0.3 grams per 100 grams and its other characteristics correspond to those fixed for this category I this standard.

**02.2.1.6.3 Olive-pomace oil** is the oil obtained by treating olive pomace with solvents or other physical treatments to the exclusion of oils obtained by re-esterification processes and of any mixture with oils of other kinds. It is marked in accordance with the following designations and definitions:

**Crude olive-pomace oil** is olive-pomace oil whose characteristic correspond to those fixed for this category in this standard. It is intended for refining for use for human consumption, or it is intended for technical use.

**Refined olive-pomace oil** is the oil obtained from crude olive-pomace oil by refining methods which do not lead to alterations in the initial glyceridic structure. It has a free acidity, correspond to those fixed for this category in this standard.

**Olive-pomace oil** is the oil comprising the blend of refined olive-pomace oil and virgin olive oils fit for consumption as they are. It has a free acidity of not more than 1 gram per 100 grams and its other characteristics correspond to those fixed for this category in this standard. In no case shall this blend be called “olive oil”.

#### 2.2.1.6.3.1 Refined Olive-pomace Oil

Means the oil obtained from “olive pomace” by extraction by means of solvents and made edible by means of refining methods which do not lead to alteration in the initial glyceridic structure. It shall be clear, limpid, without sediment, yellow to yellow-brown in color, without specific odor or taste and free from odors or tastes indicating alteration or pollution of the oil. It shall be free from rancidity, suspended or other foreign matter, separated water, added coloring or flavoring substances or mineral oil.

Further, if the oil is obtained by the method of solvent extraction and the oil imported in Pakistan whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining. The oil so refined shall not contain Hexane more than 5.00 ppm and shall conform to the following standards:

Parameters	Virgin Olive Oil	Refined Olive Oil	Refined Olive-pomace Oil
BR Reading at 40°C or Refractive Index at 40°C	51.0-55.6	51.0-55.0	51.6-55.9
	1.4600-1.4630	1.4600-1.4630	1.4604-1.4632
Saponification Value (mg KOH/g Oil)	184 -196	184 -196	182 -193
Iodine Value (Wij's)	75 – 94	75 – 94	75 - 92
Unsaponifiable matter (using Light Petroleum)	Not more than 15g/kg	Not more than 15g/kg	Not more than 30g/kg
Acid value	Not more than 6.0mgKoH/kg	Not more than 5.0 mgKoH/kg	Not more than 0.5 mgKoH/kg
Belier test	Not more than 17°C	Not more than 17°C	Not Applicable
Semi-siccative oil test	Negative	Negative	Negative
Olive Pomace oil test	Negative	Negative	Negative
Cotton seed oil test	Negative	Negative	Negative



Teased oil test	Negative	Negative	Negative
Sesame seed oil test	Negative	Negative	Negative
Test for argemone oil	Negative	Negative	Negative

### 02.2.1.7 Poppy Seed Oil

Means the oil obtained from the poppy seed (*Papaver somniferum*). It shall be clear, free from rancidity suspended or other foreign matter, separated water, added coloring or flavoring substances or mineral oils. It shall conform to the following standards:

Characteristics	Requirements
Moisture	Not more than 0.1%
Refractive index(at 40°C)	1.4659- 1.4685
Saponification value	189 – 196 mg KOH /g
Iodine value (Wij's)	130 to 140
Acid value	Not more than 4.0 mg KOH/g
Unsaponifiable matter	Not more than 1.0%
Baudouin's test	Positive
Rancidity (kreis test) in one inch cell on Lovibond Scale	Below 1.5 R
Peroxide value	Not more than 10 milli equivalents of oxygen/ kg oil.

It shall be used for medicinal purpose only.

### 02.2.1.8 Coconut Oil (Naryal Ka Tel)

Means the oil obtained from the nut kernel of *Cocos nucifera*. It shall be clear, free from rancidity suspended or other foreign matter, separated water, added coloring or flavoring substances or mineral oils. It shall conform to the following standards

Characteristics	Requirements
Moisture	Not more than 0.1%
Refractive index(at 40°C)	1.4486- 1.4492
Saponification value	248 – 285 mg KOH /g
Iodine value (Wij's)	7.5 – 9.5
Polenske value	13-18
Acid value	Not more than 4.0 mg KOH/g
Unsaponifiable matter	Not more than 0.5%
Melting point	24°C-27°C
Reichert value	6 - 8.5
Rancidity (kreis test) in one inch cell on Lovibond Scale	Below 1.5 R
Peroxide value	Not more than 5 milli equivalents of oxygen/ kg oil.
Specific gravity at 30°C	0.915-0.920

Free fatty acids (as Oleic Acid)	Not more than 0.20mg KOH/g
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GLC ranges of Fatty Acid Composition (percent)

Fatty Acids	Range
C 6:0	0.4-0.6
C 8:0	5-10
C 10:0	4.5-8.0
C 12:0	43-51
C 14:0	16-21
C 16:0	7.5-10
C 18:0	2.0 – 4.0
C 18:1	5.0-10
C 18:2	1.0-2.5
C 18:3	<0.3
C 24:1	<0.5

#### Contaminants

Characteristics	Requirements
Matter volatile at 105°C	Not more than 0.2%m/m
Insoluble impurities	Not more than 0.05%m/m
Soap content	Not more than 0.005%m/m
Iron (Fe)	Not more than 5.0 mg/kg
Copper (Cu)	Not more than 0.4 mg/kg
Lead (Pb)	Not more than 0.1 mg/kg
Arsenic (As)	Not more than 0.1 mg/kg

#### 02.2.1.9 Sarson Ka Tel, Toria Ka Tel , Rapeseed Oil, Mustard Oil, Rai Ka Tel

Means oil obtained by a process of expression or extraction of clean and sound seeds of *Brassica juncea* (rai ka tel) or *Brasica napus* (toria ka tel), *Brassica rapa* (compestris) (sarson ka tel) or mixture of these seeds. It shall be clear and free from rancidity adulterants, sediments, suspended and other foreign matter, separated water, added coloring, flavoring substances and mineral oils. It shall conform to the following standards:

Characteristics	Requirements
Moisture	Not more than 0.25%
Refractive index(at 40°C)	1.4648- 1.4659
Saponification value	169-176mg KOH /g
Iodine value (Wij's)	94-106
Acid value	Not more than 6.0 mg KOH/g

Natural essential oil,(as Allyl Isothiocynate)	0.25-0.60%
Unsaponifiable matter	Not more than 1.5%
Rancidity (kreis test) in one inch cell on Lovibond Scale	Below 1.5 R
Peroxide value	Not more than 10 milli equivalents of oxygen/ kg oil.
Bellier Test	23°C-27.5°C
Specific gravity at 15°C	0.913-0.916

#### GLC Ranges of Fatty Acid Composition (percent)

Fatty Acids	Range
C < 14	<0.5
C 14:0	<1.0
C 16:0	0.5 – 4.5
C 16:1	<0.5
C 18:0	0.5 - 2.0
C 18:1	8.0- 23
C 18:2	10 – 24
C 18:3	6.0 – 18
C 20:0	<1.5
C 20:1	0.5-13
C 22:2	<0.1
C 22:1	22-50
C 22:2	<1.0
C 24:0	<0.5
C 24:1	0.5-2.5

#### Contaminants

Characteristics	Requirements
Matter volatile at 105°C	Not more than 0.2% <i>m/m</i>
Insoluble impurities	Not more than 0.05% <i>m/m</i>
Soap content	Not more than 0.005% <i>m/m</i>
Iron (Fe)	Not more than 1.5 mg/kg
Copper (Cu)	Not more than 0.1 mg/kg
Lead (Pb)	Not more than 0.1 mg/kg
Arsenic (As)	Not more than 0.1 mg/kg

#### 0.2.2.1.10 Refined Low Erucic Acid Rapeseed / Mustard Oil (Canola Oil)

Means the oil obtained from the low erucic acid oil bearing seeds of varieties derived from Brassica species of *Cruciferae* family or from cake/ meal thereof by a process of expression (expelling) or by a process of

solvent extraction. It shall be refined, bleached and deodourised. It shall be clear and free from rancidity, adulterants, sediments, and suspended and other foreign matter and added coloring and flavoring substances or mineral oils. The solid component of the seed shall contain not less than 40 micromoles of total glucosinolates per gram of air-dry oil free solids. It shall conform to the following standards:

Characteristics	Requirements
Moisture	Not more than 0.1%
Refractive index (20°C)	0.194-0.920
Refractive index(at 40°C)	1.4650- 1.4730
Saponification value	248 – 285 mg KOH /g
Iodine value (Wij's)	110-126
Acid value	Not more than 4.0 mg KOH/g
Unsaponifiable matter	Not more than 1.5%
Crismer value	67-70
Melting point	24°C-27°C
Rancidity (kreis test) in one inch cell on Lovibond Scale	Below 1.5 R
Peroxide value	Not more than 10 milli equivalents of oxygen/ kg oil.
Erucic acid percent of component fatty acids	Not more than 5.0%
Smoke point °C(pensky marten closed method)	Not less than 232
Sulfur	Not more than 10 mg/kg
Vitamin A	Minimum 33,000 IU/kg to Maximum 45,000 IU/kg
Vitamin D	Minimum 3,000 IU/kg to Maximum 4,500 IU/kg
Specific gravity at 20°C	0.914 -0.920
Colour in one inch cell (Y+10)	12 Maximum
Free fatty acids (as Oleic Acid)	Not more than 0.20mg KOH/g

GLC ranges of fatty acid composition (percent)

Fatty Acids	Range
C < 14	<0.2
C 16:0	2.5 – 6.0
C 16:1	<0.6
C 18:0	0.8 - 2.5
C 18:1	55- 66
C 18:2	18 – 28
C 18:3	6.0 – 18
C 20:0	0.1-1.2
C 20:1	0.1-4.3
C 22:0	<0.6
C 22:1	<0.6
C 22:2	<1.0
C 24:0	<0.2
C 24:1	0.2

## Contaminants

Characteristics	Requirements
Matter volatile at 105°C	Not more than 0.2% <i>m/m</i>
Insoluble impurities	Not more than 0.05% <i>m/m</i>
Soap content	Not more than 0.005% <i>m/m</i>
Iron (Fe)	Not more than 1.5 mg/kg
Copper (Cu)	Not more than 0.1 mg/kg
Lead (Pb)	Not more than 0.1 mg/kg
Arsenic (As)	Not more than 0.1 mg/kg

### 02.2.1.11 Linseed Oil (Alsi Ka Tel)

Means the oil obtained from the seeds of *Linum usitatissimum*. It shall be clear and free from rancidity, suspended and other foreign matter, separated water, added coloring and flavoring substances, and mineral oils. It shall conform to the following standards:

Characteristics	Requirements
Moisture	Not more than 0.25%
Refractive index (40°C)	0.4720 – 14750
Saponification value	188 – 196 mg KOH /g
Iodine value (Wij's)	170-204
Acid value	Not more than 4.0 mg KOH/g
Unsaponifiable matter	Not more than 1.5%
Rancidity (kreis test) in one inch cell on Lovibond Scale	Below 1.5 R
Peroxide value	Not more than 10 milli equivalents of oxygen/ kg oil.
Free fatty acids (as Oleic Acid)	Not more than 0.20mg KOH/g

### 02.2.1.12 Sunflower Oil

Means the oil obtained from the seeds of *Helianthus annum*. It shall be clear, free from rancidity, suspended or other foreign matter, separated water, added coloring or flavoring substances or mineral oil. It shall conform to the following standards:.

Characteristics	Requirements
Moisture	Not more than 0.1%
Refractive index (40°C)	1.460 to 1.4690
Saponification value	188 – 194mg KOH /g

Iodine value (Wij's)	100 to 143
Acid value	Not more than 4.0 mg KOH/g
Unsaponifiable matter	Not more than 1.5%
Rancidity (kreis test) in one inch cell on Lovibond Scale	Below 1.5 R
Peroxide value	Not more than 10 milli equivalents of oxygen/ kg oil.
Free fatty acids (as Oleic Acid)	Not more than 0.20mg KOH/g

GLC ranges of fatty acid composition (percent)

Fatty Acids	Range
C < 14	<0.4
C 14:0	<0.5
C 16:0	3.0 – 10.0
C 16:1	<1.0
C 18:0	1.0 - 10
C 18:1	14-35
C 18:2	55- 75
C 18:3	<0.7
C 20:0	<1.5
C 20:1	<0.5
C 22:0	<1.0
C 22:1	<0.5
C 22:2	<0.5
C 24:0	<0.5
C 24:1	<0.5

## Contaminants

Characteristics	Requirements
Matter volatile at 105°C	Not more than 0.2% m/m
Insoluble impurities	Not more than 0.05% m/m
Soap content	Not more than 0.005% m/m
Iron (Fe)	Not more than 5.0 mg/kg
Copper (Cu)	Not more than 0.4 mg/kg
Lead (Pb)	Not more than 0.1 mg/kg
Arsenic (As)	Not more than 0.1 mg/kg

### 02.2.1.13 Refined Sunflower Oil

Means the oil obtained from the seeds of *Helianthus annuus* by chemical or physical refining, bleaching and deodorizing. It shall be clear and free from rancidity, suspended and other foreign matter, separated water, added coloring and flavoring substances, and mineral oils it shall conform to the following standards:

Characteristics	Requirements
Moisture	Not more than 0.1%
Refractive index(at 40°C)	1.4670- 1.4690
Saponification value	188 – 194 mg KOH /g
Iodine value (Wij's)	100-140
Acid value	Not more than 0.5 mg KOH/g
Unsaponifiable matter	Not more than 1.5%
Rancidity (kreis test) in one inch cell on Lovibond Scale	Below 1.5 R
Peroxide value	Not more than 10 milli equivalents of oxygen/ kg oil.
Sulfur	Not more than 10 mg/kg
Vitamin A	Minimum 33,000 IU/kg to Maximum 45,000 IU/kg
Vitamin D	Minimum 3,000 IU/kg to Maximum 4,500 IU/kg
Colour in one inch cell on Lovibond Scale( Y+10R)	Not more than 25
Flash point (Pensky Marten closed method)	Not less than 250°C
Free fatty acids (as Oleic Acid)	Not more than 0.20mg KOH/g

GLC ranges of fatty acid composition (percent)

Fatty Acids	Range
C < 14	<0.4
C 14:0	<0.5
C 16:0	3.0 – 10.0
C 16:1	<1.0
C 18:0	1.0 - 10
C 18:1	14-35
C 18:2	25- 75
C 18:3	<0.7
C 20:0	<1.5
C 20:1	<0.5
C 22:0	<1.0
C 22:1	<0.5
C 22:2	<0.5
C 24:0	<0.5
C 24:1	<0.5

## Contaminants

Characteristics	Requirements
Matter volatile at 105°C	Not more than 0.2%m/m
Insoluble impurities	Not more than 0.05%m/m
Soap content	Not more than 0.005%m/m

Iron (Fe)	Not more than 5.0 mg/kg
Copper (Cu)	Not more than 0.4mg/kg
Lead (Pb)	Not more than 0.1 mg/kg
Arsenic (As)	Not more than 0.1 mg/kg

#### 02.2.1.14 Taramira Oil

Means the oil obtained from the seeds of *Eruca sativa*. It shall be clear, free from rancidity suspended or other foreign matter, separated water, added coloring or flavoring substances or mineral oils. It shall conform to the following standards:

Characteristics	Requirements
Moisture	Not more than 0.25%
Refractive index (40°C)	1.4646 to 1.4666
Saponification value	170 – 180mg KOH /g
Iodine value (Wij's)	93 to 105
Acid value	Not more than 6.0 mg KOH/g
Unsaponifiable matter	Not more than 1.0%
Rancidity (kreis test) in one inch cell on Lovibond Scale	Below 1.5 R
Peroxide value	Not more than 10 milli equivalents of oxygen/ kg oil.

#### 02.2.1.15 Almond Oil or Badam Roghan

Means the oil obtained from sweet almonds, *Prunus amygdalus* or *Prunus dulcis*. It shall be clear, free from rancidity, suspended or other foreign matter, separated water, added coloring or flavoring substances or mineral oil. Taste shall be bland and nutty. It shall conform to the following standards:

Characteristics	Requirements
Moisture	Not more than 0.25%
Refractive index(at 40°C)	1.4590- 1.4650
Saponification value	188 – 196 mg KOH /g
Iodine value (Wij's)	92-102
Acid value	Not more than 2.0 mg KOH/g
Rancidity (kreis test) in one inch cell on Lovibond Scale	Below 1.5 R
Specific gravity at 15°C	0.915-0.920
Peroxide value	Not more than 10 milli equivalents of oxygen/ kg oil.
Specific tests for presence of apricot kernel oil peach kernel oil, arachis oil, cottonseed oil, sesame and groundnut oil	Negative
Free fatty acids (as Oleic Acid)	Not more than 0.20mg KOH/g



Oil should remain clear after keeping at -10°C for 3 hours and should not congeal until the temperature has been reduced to -18°C.

#### 02.2.1.16 Soya bean Oil

Means the oil obtained from clean and sound seeds of *Glycine max (L) merrill syn. Glycine soja siebold Zucc.* Family Leguminosae from which the major portion of the gums naturally present have been removed by hydration and mechanical or physical separation. It shall be clear, free from rancidity, suspended or other foreign matter, separated water, added coloring or flavoring substances or mineral oil. It shall conform to the following standards:

Characteristics	Requirements
Moisture	Not more than 0.25%
Refractive index(at 40°C)	1.4646- 1.4670
Saponification value	189 – 196 mg KOH /g
Iodine value (Wij's)	125-140
Acid value	Not more than 4.0 mg KOH/g
Unsaponifiable matter	Not more than 1.5%
Rancidity (kreis test) in one inch cell on Lovibond Scale	Below 1.5 R
Peroxide value	Not more than 10 milli equivalents of oxygen/ kg oil.
Free fatty acids (as Oleic Acid)	Not more than 0.20mg KOH/g

GLC ranges of fatty acid composition (percent)

Fatty Acids	Range
C < 14	<0.1
C 14:0	<0.5
C 16:0	7.0 – 14
C 16:1	<0.5
C 18:0	3.0 – 5.5
C 18:1	18-26
C 18:2	50- 57
C 18:3	5.5-5.7
C 20:0	<0.6
C 20:1	<0.5
C 22:0	<0.5
C 24:0	<0.5

#### Contaminants

Characteristics	Requirements
Matter volatile at 105°C	Not more than 0.2%m/m
Insoluble impurities	Not more than 0.05%m/m

Soap content	Not more than 0.005% <i>m/m</i>
Iron (Fe)	Not more than 1.5 mg/kg
Copper (Cu)	Not more than 0.1 mg/kg
Lead (Pb)	Not more than 0.1 mg/kg
Arsenic (As)	Not more than 0.1 mg/kg

#### 02.2.1.17 Refined Soyabean Oil

Means the oil obtained from the seeds of *Glycine. max (L) Merrill syn. Glycine Soja sieb* and *Zucc.* Family Leguminosae by chemical or physical refining, bleaching, deodourising. It shall be clear and free from rancidity, suspended and other foreign matter, separated water, added coloring and flavoring substances, and mineral oils. It shall conform to the following standards.

Characteristics	Requirements
Moisture	Not more than 0.1%
Refractive index (40°C)	1.4646 to 1.4670
Saponification value	189 – 195 mg KOH /g
Iodine value (Wij's)	125 -140
Acid value	Not more than 0.5 mg KOH/g
Unsaponifiable matter	Not more than 1.0%
Rancidity (kreis test) in one inch cell on Lovibond Scale	Below 1.5 R
Peroxide value	Not more than 10 milli equivalents of oxygen/ kg oil.
Vitamin A	Minimum 33,000 IU/kg to Maximum 45,000 IU/kg
Vitamin D	Minimum 3,000 IU/kg to Maximum 4,500 IU/kg
Free fatty acids (as Oleic Acid)	Not more than 0.20 mg KOH/g

GLC ranges of fatty acid composition (percent)

Fatty Acids	Range
C < 14	<0.1
C 14:0	<0.5
C 16:0	7.0 – 14
C 16:1	<14
C 18:0	3.0 – 5.5
C 18:1	18-26
C 18:2	44- 62
C 18:3	5.5-5.7
C 20:0	<0.6
C 20:1	<0.5
C 22:0	<0.5
C 24:0	<0.5

## Contaminants

Characteristics	Requirements
Matter volatile at 105°C	Not more than 0.2% <sub>m/m</sub>
Insoluble impurities	Not more than 0.05% <sub>m/m</sub>
Soap content	Not more than 0.005% <sub>m/m</sub>
Iron (Fe)	Not more than 1.5 mg/kg
Copper (Cu)	Not more than 0.1 mg/kg
Lead (Pb)	Not more than 0.1 mg/kg
Arsenic (As)	Not more than 0.1 mg/kg

### 02.2.1.18 Refined Palm Oil

Means the oil obtained from fleshy mesocarp of fruits of the oil palm (*Elaeis guineensis*) tree by the process of expression or solvent extraction or both. It shall be clear and free from suspended matter, added coloring matter or flavoring substances or mineral oil and other adulterants. It shall be refined, bleached and deodourised in a manner that the product so obtained shall be free from any foreign harmful matter. It shall conform to the following standards:

Characteristics	Requirements
Moisture	Not more than 0.1%
Refractive index(at 40°C)	1.4491- 1.4552
Saponification value	195 – 205 mg KOH /g
Iodine value (Wij's)	50-55
Acid value	Not more than 0.4 mg KOH/g
Unsaponifiable matter	Not more than 1.2%
Rancidity (kreis test) in one inch cell on Lovibond Scale	Below 1.5 R
Peroxide value	Not more than 10 milli equivalents of oxygen/ kg oil.
Melting point	Not more than 37°C
Free fatty acids (as Oleic Acid)	Not more than 0.20mg KOH/g

GLC ranges of fatty acid composition (percent)

Fatty Acids	Range
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C 12:0	<0.4
C 14:0	0.5 – 5.9
C 16:0	32-59
C 16:1	<0.6
C 18:0	1.5-8.0
C 18:1	27-14.0
C 18:2	5.0-14.0
C 18:3	<0.5
C 20:0	<1.0

## Contaminants

Characteristics	Requirements
Matter volatile at 105°C	Not more than 0.2% <i>m/m</i>
Insoluble impurities	Not more than 0.05% <i>m/m</i>
Soap content	Not more than 0.005% <i>m/m</i>
Iron (Fe)	Not more than 1.5 mg/kg
Copper (Cu)	Not more than 0.1 mg/kg
Lead (Pb)	Not more than 0.1 mg/kg
Arsenic (As)	Not more than 0.1 mg/kg

### 02.2.1.19 Refined Palmolein

Means the liquid fraction of refined palm oil obtained from the flesh of fruits of oil palm tree (*Elaeis guineensis*) by the process of expression or solvent extraction or both. It shall be refined, deodourised in a manner that the product so obtained shall be free from any foreign harmful matter. It shall be clear, free from suspended foreign matter, added coloring or flavoring substances or mineral oil or other adulterant. It shall conform to the following standards:

Characteristics	Requirements
Moisture	Not more than 0.1%
Refractive index(at 40°C)	1.4550- 1.4610
Saponification value	195 – 205 mg KOH /g
Iodine value (Wij's)	54-62
Acid value	Not more than 0.5 mg KOH/g
Unsaponifiable matter	Not more than 1.2%
Rancidity (kreis test) in one inch cell on Lovibond Scale	Below 1.5 R
Peroxide value	Not more than 10 milli equivalents of oxygen/ kg oil.
Melting point (open capillary slip method)	Not more than 23°C
Vitamin A	Minimum 33,000 IU/kg to

	Maximum 45,000 IU/kg
Vitamin D	Minimum 3,000 IU/kg to Maximum 4,500 IU/kg
Cloud point	Not more than 10°C
Colour in one inch cell on Lovibond Scale( Y+10R)	50 Max
Free fatty acids (as Oleic Acid)	Not more than 0.20mg KOH/g

#### 02.2.1.20 Niger Seed oil, (Sagiya Kat Tel)

Means the edible oil obtained by a process of expressing clean and sound seeds of *Guizotia abyssinica*. It shall be clear and free from rancidity, suspended or other foreign matter, separated water, added coloring or flavoring matter or mineral oil or other oil. It shall conform to the following standards:

Characteristics	Requirements
Moisture	Not more than 0.1%
Refractive index (40°C)	1.4666 to 1.4691
Saponification value	188 – 193 mg KOH /g
Iodine value (Wij's)	110 -135
Acid value	Not more than 6.0mg KOH/g
Unsaponifiable matter	Not more than 1.0%
Rancidity (kreis test) in one inch cell on Lovibond Scale	Below 1.5 R
Peroxide value	Not more than 10 milli equivalents of oxygen/ kg oil.
Specific gravity at 15°C	0.924-0.927

#### 02.2.1.21 SAFFLOWER SEED OIL (BARREY KA TEL)

Means the oil expressed from the seeds of *carthamus tinctorius*. It shall be clear, free from rancidity, suspended or other foreign matter, separated water, added coloring or flavoring substances, or mineral oil. It shall conform to the following standards:

Characteristics	Requirements
Moisture	Not more than 0.25%
Refractive index (20°C)	1.467 to 1.470
Saponification value	186 – 196 mg KOH /g
Iodine value (Wij's)	135 -148
Acid value	Not more than 6.0mg KOH/g
Unsaponifiable matter	Not more than 1.5%
Rancidity (kreis test) in one inch cell on Lovibond Scale	Below 1.5 R
Peroxide value	Not more than 10 milli equivalents of oxygen/ kg oil.
Free fatty acids (Oleic Acid)	Not more than 0.20 mg KOH/g

GLC ranges of fatty acid composition (percent)

Fatty Acids	Range
C < 14	<0.1
C 14:0	<1.0
C 16:0	2.0 – 10
C 16:1	<0.5
C 18:0	1.0 – 10
C 18:1	7.0-42
C 18:2	55-81
C 18:3	<1.0
C 20:0	<0.5
C 20:1	<0.5
C 22:0	<0.5

## Contaminants

Characteristics	Requirements
Matter volatile at 105 <sup>0</sup> C	Not more than 0.2% <i>m/m</i>
Insoluble impurities	Not more than 0.05% <i>m/m</i>
Soap content	Not more than 0.005% <i>m/m</i>
Iron (Fe)	Not more than 1.5 mg/kg
Copper (Cu)	Not more than 0.1 mg/kg
Lead (Pb)	Not more than 0.1 mg/kg
Arsenic (As)	Not more than 0.1 mg/kg

### 02.2.1.22 Maize oil (corn)

Means the oil extracted from the germ of clean and sound seeds of *Zea mays* Linn, refined. It shall be clear, free from rancidity, suspended or foreign matter, separated water, added coloring matter or flavoring substances or mineral oil. It shall conform to the following standards:

Characteristics	Requirements
Moisture	Not more than 0.25%
Refractive index (40°C)	1.465 to 1.4675
Saponification value	187 – 195 mg KOH /g
Iodine value (Wij's)	103 -130
Acid value	Not more than 2.0mg KOH/g
Unsaponifiable matter	Not more than 1.5%
Rancidity (kreiss test) in one inch cell on Lovibond Scale	Below 1.5 R
Peroxide value	Not more than 10 milli equivalents of oxygen/ kg oil.
Colour index in one inch cell (y+ 10R)	Maximum 35
Free fatty acids (Oleic Acid)	Not more than 0.20 mg KOH/g

GLC ranges of fatty acid composition (percent)

Fatty Acids	Range
C 12:0	<0.3
C 14:0	<0.3
C 16:0	9-14
C 16:1	<0.5
C 18:0	0.5-4.0
C 18:1	24-42
C 18:2	34-62
C 18:3	<2.0
C 20:0	<1.0
C 20:1	<0.5
C 22:0	<0.5
C 24:0	<0.5

## Contaminants

Characteristics	Requirements
Matter volatile at 105 <sup>0</sup> C	Not more than 0.2% <i>m/m</i>
Insoluble impurities	Not more than 0.05% <i>m/m</i>
Soap content	Not more than 0.005% <i>m/m</i>
Iron (Fe)	Not more than 1.5 mg/kg
Copper (Cu)	Not more than 0.1 mg/kg
Lead (Pb)	Not more than 0.1 mg/kg
Arsenic (As)	Not more than 0.1 mg/kg

### 02.2.1.23 Refined Maize (Corn) Oil

Means the oil extracted from the germ of clean and sound seeds of *Zeas mays Linn* family Graminae by chemical or physical refining, bleaching and deodouring. It shall be clear, free from rancidity, suspended or other foreign matter, separated water, added coloring or flavoring substances or mineral oil and shall have acceptable taste and odour. It shall conform to the following standards:

Characteristics	Requirements
Moisture	Not more than 0.1%
Refractive index (40°C)	1.4645 to 1.4675
Saponification value	187 – 195 mg KOH /g
Iodine value (Wij's)	103 -130
Acid value	Not more than 0.5 mg KOH/g

Unsaponifiable matter	Not more than 1.5%
Rancidity (kreis test) in one inch cell on Lovibond Scale	Below 1.5 R
Peroxide value	Not more than 10 milli equivalents of oxygen/ kg oil.
Vitamin A	Minimum 33,000 IU/kg to Maximum 45,000 IU/kg
Vitamin D	Minimum 3,000 IU/kg to Maximum 4,500 IU/kg
Flash point (Pensky Martens Closed Method)	Not less than 302°C
Color index in one inch cell on Lovibond Scale expresses (y + 10R)	Not more than 35
Specific gravity at 20°C	0.195-0.920
Free fatty acids (as Oleic Acid)	Not more than 0.20 mg KOH/g

GLC ranges of fatty acid composition (percent)

Fatty Acids	Range
C 12:0	<0.3
C 14:0	<0.3
C 16:0	9-14
C 16:1	<0.5
C 18:0	0.5-4.0
C 18:1	24-42
C 18:2	34-62
C 18:3	<2.0
C 20:0	<1.0
C 20:1	<0.5
C 22:0	<0.5
C 24:0	<0.5

#### 02.2.1.24 Rice Bran Oil

Means the oil obtained from the layer around the endosperm of rice obtained from paddy of *Oryza sativa* Linn. Which is removed during the process of rice milling and is generally known as rice bran.

#### 02.2.1.25 Refined Rice Bran Oil

Shall be obtained from solvent extracted oil, neutralized with alkali, bleached with bleaching earth or activated carbon or both and deodorized with steam. Alternatively, deacidification, bleaching and deodorization may be done by physical means. The oil shall be clear and free from rancidity, adulterants, sediments, suspended and other foreign matters, separated water and added coloring and flavoring substances. The clarity of the oil shall be judged by the absence of turbidity after keeping the filtered sample at 35°C for 24 hrs. Rice bran oil shall be sold for human consumption only after refining. It shall conform to the following standards, namely:

Characteristics	Requirements
Moisture	Not more than 0.1% by weight
Refractive index (40°C)	1.4600 to 1.4700
Butyro-refractometer reading at 40°C	51.0 - 66.4
Saponification value	180 – 195 mg KOH /g



Iodine value (Wij's)	90-105
Acid value	Not more than 0.5 mg KOH/g
Unsaponifiable matter, percent by Weight	Not more than 1.5% of extracted fat
For chemically refined	Not more than 3.5
For physically refined	Not more than 4.5
Oryzanol content	Not more than 1.0
Flash point (penskymartens Closed Method.	Not less than 250°C

Further, if the oil is obtained by the method of solvent extraction and the oil imported in Pakistan whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining. The oil so refined shall not contain hexane more than 5.00 ppm.

### Shortening

All shortenings by whatever name they may be called, used in baking, shall conform to the following standards:

Characteristics	Requirements
Melting point	Below 37°C
Peroxide value	Should be less than 10 meq/kg
Unsaponifiable matter	Maximum 1.5% of extracted fat
Free fatty acid	Maximum 0.25 % by Weight as Oleic Acid of extracted fat
Preservatives and antioxidants	Are to be used as per latest Codex Alimentarius list
Trans fat	Not more than 0.5%

#### 02.2.1.26 Palm Kernel Oil

Means the oil obtained from sound kernel of the fruits of oil palm (*Elaeis guineensis*) tree by the method of expression or solvent extraction. It shall be clear, free from rancidity suspended, or other foreign matter, separated water, added coloring and flavoring substances or mineral oil. It shall conform to the following standards, namely.

Characteristics	Requirements
Butyro-refractometer reading at 40°C	35.3-39.5
Refractive index at 40°C	1.4490-1.4520
Iodine value	10-23
Saponification value	188-194
Unsaponifiable matter	Not more than 1.5%
Acid value	Not more than 6.0
Flash point (Penske Marten Closed method)	Not less than 250°C
Hexane	Not more than 5.00 ppm

**02.2.1.27 Tallow, Fish oil, and other Animal Fats (Halal)** (Note: Earlier it was allowed for human consumption, now it stands banned as per the table of strictly prohibited substances (Table 11.1) of these Regulations and is now only destined for the biodiesel production).

All animal fats and oils should be derived from animals in good health at the time of slaughter and intended for human consumption. Edible beef fat is obtained from fresh bovine fatty tissue covering the abdominal cavity and surrounding the kidney and heart, and from other compact, undamaged fat tissues. Such fresh fat obtained at the time of slaughter is the “killing fat.” Prime beef fat (premiere jus or oleo stock) is obtained by low-heat rendering (50-55°C) of killing fat and selected fat trimmings (cutting fat). Secunda beef fat is a product with typical beef fat odour and taste obtained by rendering (60-65°C) and purifying beef fat. Edible tallow (dripping) is produced by the rendering of fatty tissue (excluding trimmings and cutting fat), attached muscles and bones of bovine animals or sheep. Fish oils are derived from suitable sources such as herring, sardines, sprat, and anchovies.

#### **02.2.1.28 Fish Oils**

Means oils intended for human consumption derived from the raw material. Processes to obtain fish oil for human consumption may involve, but are not limited to, extraction of crude oil from raw material and refining of that crude oil. Fish oils and concentrated fish oils are primarily composed of glycerides of fatty acids whereas concentrated fish oils ethyl esters are primarily composed of fatty acids ethyl esters. Fish oils may contain other lipids and unsaponifiable constituents naturally present. The refined fish oil production process typically includes several steps such as repeated heating at high temperatures as well as alkali/ acid treatments and repeated removal of the water phase. Fish oils may also be subjected to processing steps (e.g. solvent extraction, saponification, re-esterification, trans-esterification)

**(i) Named Fish Oils:** Are derived from specific raw materials which are characteristic of the major fish or shell- fish taxon from which the oil is extracted.

#### **02.2.1.29 Anchovy Oil**

Is derived from species of the genus *Engraulis* (Engraulidae)

#### **02.2.1.30 Tuna Oil**

Is derived from the species of the genus *thunnus* and from the species *katsuwonus pelamis* (scombridae).

#### **02.2.1.31 Krill Oil**

It is derived from *Euphausia superba*. The major components are triglycerides and phospholipids. The content of phospholipids should be at least 30%w/w.

#### **02.2.1.32 Menhaden Oil**

Is derived from the genus *Brevoortia* (clupeidae).

#### **02.2.1.33 Salmon Oil**

Oil is derived from the family Salmonidae

(i) Fish oils (unnamed) are derived from a single species of fish other than the ones listed above or are a mixture of fish oils derived from specified and/or unspecified raw materials. This includes also mixtures with fish liver oils.

(ii) Named fish liver oils are derived from the livers of fish and are composed of fatty acids, vitamins or other components that are representative of the livers from the species from which the oil is extracted.

#### **02.2.1.34 Cod Liver Oil**

Is derived from the liver of wild cod, *gadus morhua* and other species of gadidae.

(i) Fish liver oil (unnamed) may be derived from the livers of fish other than those used for named fish liver oils or are a mixture of named fish liver oils and/or single species fish liver oils.

(ii) Concentrated fish oils are derived from fish oils described in this section above, which have been subjected to processes that may involve, but are not limited to, hydrolysis, fractionation, winterization and/or re-esterification to increase the concentration of specific fatty acids.

(iii) Concentrated fish oil contains 35 to 50% w/w fatty acids as sum of C20:5 (n-3) Eicosapentaenoic acid (EPA) and C22:6 (n-3) Docosahexaenoic acid (DHA), at least 50% w/w of fatty acids are in the form of triglycerides

(iv) Highly concentrated fish oil contains greater than 50% w/w fatty acids as sum of EPA and DHA, at least 50 w/w % of fatty acids are in the form of triglycerides

(v) Concentrated fish oils ethyl esters are derived from fish oils described in section (1.4.1. to 1.4.4) are primarily composed of fatty acids ethyl esters.

(vi) Concentrated fish oil ethyl esters contain fatty acids as esters of ethanol of which 40 to 60% w/w are as sum of EPA and DHA.

(vii) Highly concentrated fish oil ethyl esters contain fatty acids as esters of ethanol of which greater than 60% w/w are as sum of EPA and DHA.

(viii) Fish oils, fish liver oils, concentrated fish oils, and concentrated fish oils ethyl esters shall comply with the following:

Characteristics	Requirements
Acid value	$\leq 3$ mgKOH/g
Peroxide value	$\leq 5$ milli equivalents of oxygen/ kg oil
Anisidine value	$\leq 20$
Total Oxidation value (Totox) <sup>2</sup>	$\leq 26$

Fish oils with a high phospholipids concentration of 30% or more such as krill oil shall comply with the following:

Characteristics	Requirements
Acid value	$\leq 30$ mg KOH/g
Peroxide value	$\leq 5$ milli equivalents of oxygen/ kg oil

## Vitamins

Fish oils with a high phospholipids concentration of 30% or more such as krill oil shall comply with the following:

Characteristics	Requirements
Vitamin A	$\geq 40\mu\text{g}$ of retinol equivalents/mL of oil
Vitamin D	$\geq 1.0\mu\text{g/mL}$

## Antioxidant

INS	Additive Name	Maximum Level
300	Ascorbic Acid, L	GMP

304,305	Ascorbyl Esters	2500 Mg/kg, as Ascorbyl Stearate
307A, B, C	Tocopherols	6000 mg/kg, singly or in combination

## Emulsifier

322 (I)	Lecithin	GMP
471	Mono-and diglycerides of Fatty Acids	GMP

### 02.3 Banaspati, Vanaspati (Applicable only upto July, 2020)

Means the product obtained from any edible refined harmless vegetable oil or mixture of oils by the process of hydrogenation and/or interesterification and containing no coloring or flavoring or any matter deleterious to health. The product shall be prepared from properly refined bleached and deodorized vegetable oils in premises maintained under hygienic condition when melted, the product shall be clear bright and free from sediments, suspended foreign matter, mineral oil, unpleasant taste and aroma. It shall not have more than 0.5% trans-fat and trans-fat percentage shall be mentioned on the label. **After July 2020**, there shall be complete ban on any form of Banaspati/Vanaspati.

It shall conform to the following standards:

Characteristics	Requirements
Moisture and volatile matter	Not more than 0.1%
Refractive index (at 40°C)	Not less than 1.4580
Melting point by Capillary Tube Method at complete fusion	35±2°C
Iodine value (wij's)	Not less than 70
Acid value	Not more than 0.4 mg KOH/g
Unsaponifiable matter	Not more than 1.5%
Rancidity (kreis test) in one inch cell on lovibond scale.	Below 1.5 R
Peroxide value	Not more than 5 mill equivalents of oxygen /kg oil
Nickel	Not more than 0.25 ppm
Trans fatty acids contents	Not more than 0.5%

Provided that where banaspati is prepared from coconut oil, the butyro-refractive value shall be from 34 to 38 and the reichert value shall be from 6 to 8 and saponification value shall be from 240 to 250.

### 02.4 Margarine, Table Margarine, Margarine Spread & Spreads

#### 02.4.1 Margarine

Margarine is a fluid emulsion of refined deodorized, hydrogenated / interesterified or un-hydrogenated edible vegetable oils / fats in water with or without permitted food additives. Soft edible oils must only be

used in margarine and all margarines shall be fortified with vitamin A and D. The oils and the fats used in the production of margarine must be only of vegetable origin with the exception of cows, buffalo's milk fat. No other animal oils and fats shall be used in margarine. The melting point shall not be more than 37°C). It shall be clearly defined on the label in Urdu “ye makhan nahi hai”. This label shall be 15% of the total package area and it shall be mentioned on both sides of the label, in two colors only. Trans-fatty acid percentage must be mentioned on the label.

#### 02.4.1.1 Table Margarine

Table margarine is fluid emulsion of refined deodorized, hydrogenated or un-hydrogenated/ interesterified edible vegetable oils /fats blend and water with minimum fat level of 80% and moisture 16% maximum and meets following requirements:

Characteristics	Requirements
Salt	Maximum 2.5 % by Weight-
Slip melting point	28 - 37 °C
Vitamin A	Not less than 33,000 IU/kg to maximum 45,000
Vitamin D	Minimum 3000 IU/kg to Maximum 4,500 IU/kg
Other vitamins	Limited by GMP
Suitable edible dairy proteins	Limited by GMP
Trans fatty contents	Not more than 0.5%
Unsaponifiable matter	Maximum 1.5% of extracted fat
Shelf life	Maximum 9 months
Free fatty acid	Less than 0.25 %

#### Food Additives

Including acidity regulators, antifoaming agents, antioxidants, colors, emulsifiers, flavors, packing gases, preservatives, stabilizers and thickeners as per Codex additives standards.

#### 02.4.1.2 Industrial Margarine

Industrial margarine is a fluid emulsion of refined deodorized, hydrogenated or unhydrogenated / interesterified edible vegetable oils /fats blend with or without water, with minimum fat level of 80% and moisture 16% maximum, cholesterol should be virtually absent in it and it shall meets following requirements:

Characteristics	Requirements
Salt	Maximum 2.5 % by Weight
Vitamin A	33,000-45,000 IU/kg
Vitamin D	3,000- 4,500 IU/kg
Other vitamins	Limited by GMP
Suitable edible dairy proteins	Limited by GMP
Trans fat contents	Not more than 0.5%
Free fatty acids	Maximum 0.25 % by weight as Oleic Acid of extracted fat
Peroxide value	Should be less than 10 milli equivalents of oxygen/ kg oil
Slip melting point	28-37°C
Unsaponifiable matter	Maximum 1.5% of extracted fat
Shelf life	Maximum 9 months

## Food Additives

Including acidity regulators, antifoaming agents, antioxidants, colors, emulsifiers, flavors, packing gases, preservatives, stabilizers and thickeners as per Codex additives standards

### 02.4.1.3 Margarine Spread

Margarine spread is fluid emulsion of refined, deodorized, hydrogenated or un-hydrogenated / inter-esterified edible vegetable oils/ fat blend in water with minimum fat level of 60 percent and maximum moisture is 39 percent and contains ingredients.

Characteristics	Requirements
Salt	Maximum 2.5 % by Weight
Slip melting point	28-37°C
Vitamin A	Not less than 33,000IU/kg -45,000 IU/kg
Vitamin D	Minimum 3000- Maximum 4500 IU/kg
Other vitamins	Limited by GMP
Suitable edible dairy proteins	Limited by GMP
Trans fat contents	Not more than 0.5%
Free fatty acids	Maximum 0.25 % by weight as Oleic Acid of extracted fat
Peroxide value	less than 10 milli equivalents of oxygen/ kg oil
Slip melting point	28-37°C
Unsaponifiable matter	Maximum 1.5% of extracted fat

Food additives including acidity regulators, antifoaming agents, antioxidants, colors, emulsifiers, flavors, packing gases, preservatives, stabilizers and thickeners as per Codex additives standards.

**02.4.1.4 Spread:** Spread is a fluid emulsion of refined, deodorized, hydrogenated or un-hydrogenated / inter-esterified edible vegetable oils/ fat blend in water with minimum fat level of 40 percent and maximum moisture is 59 percent and contains ingredients:

Characteristics	Requirements
Salt	Should be 2.5 % by Weight-maximum
Vitamin A	33,000-45,000 IU/kg
Vitamin D	3000- 4500 IU/kg
Other vitamins	Limited by GMP
Suitable edible dairy proteins	Limited by GMP
Trans fat content	Not more than 0.5%
Free fatty acids	Maximum 0.25 % by weight as Oleic Acid of extracted fat
Peroxide value	less than 10 milli equivalents of oxygen/ kg oil
Slip melting point	28-37°C
Unsaponifiable matter	Maximum 1.5% of extracted fat

Food additives including acidity regulators, antifoaming agents, antioxidants, colors, emulsifiers, flavours, packing gases, preservatives, stabilizers and thickeners as per Codex additives standards.

## 02.5 Animal Fat (Halal)

Means the edible fat rendered from fresh, clean, sound fatty tissues of halal animals (bovine, ovine, caprine or a combination of these), that was healthy at the time of slaughtering in accordance with Islamic injunctions and fit for human consumption. It shall conform to the following standards:

Characteristics	Requirements
Specific gravity at 25°C	0.903 - 0.907
Refractive index (at 40°C)	1.448 - 1.460
Saponification value	192-200 mg KOH/g
Iodine value (Wij's).	26-48
Acid value	Not more than 5 mg KOH /g
Unsaponifiable matter	Not more than 2.0%
Rancidity (Kreiss test) in one inch cell on Lovibond Scale	Below 1.5 R
Peroxide value	Not more than 10 milli equivalents of oxygen/kg oil.

**Note:** Earlier it was allowed for human consumption, now it stands banned as per the table of strictly prohibited substances (Table 11.1) of these Regulations and is now only destined for the biodiesel production.

## 02.6 Oils/Fats During Frying

All food items that are being fried shall be fried in oils that meet specific standards as per this regulation and the oil shall be discarded when above the following limits. Any oil/fats or emulsions used for frying of any food shall conform to following standards when sample is taken during frying.

Characteristics	Requirements
Free fatty acid	Not more than 1.8 %
Total polar contents	Not more than 20 %
Trans fatty acids	Not more than 5 %

## 02.7 Fat Emulsions

Include all emulsified products excluding fat-based counterparts of dairy products and dairy desserts.

### 02.7.1 Water in Oil Emulsions

#### 02.7.1.1 Butter

Means the substance usually known as butter or makhan, made exclusively from cow's or buffalo's milk, from cream or dahi prepared from such milk, or with or without annatto or carotene. It shall be free from any synthetic colouring matter. It may contain acidity regulator not exceeding 0.2 percent by weight in the finished product. It shall conform to the following standards:

Characteristics	Requirements
Milk fat	Not less than 80.0%
Water	Not more than 16%
Milk solids not fat content	Not less than 2.0%

## 02.7.2 Oil in Water Emulsions

### 02.7.2.1 Salad Dressing

Means the emulsified semi-solid food prepared from edible vegetable oil minimum 30 percent, whole egg, egg yolk, vinegar or citric fruit juice or both, permitted acidifying agents, herbs, fruits, vegetables, any spice (except saffron or turmeric) or natural flavoring, provided it does not impart to the salad dressing a coloring simulating the color imparted by egg yolk. Optional ingredients that may also be used are salt, nutritive carbohydrate sweeteners, stabilizers, thickeners, preservatives and EDTA as sequestrant at a level not exceeding 75 ppm.

### 02.7.2.2 Mayonnaise

Mayonnaise is a condiment sauce obtained by emulsifying edible vegetable oil(s) in an aqueous phase consisting of natural or synthetic vinegar, the oil-in-water emulsion being produced by hen's egg yolk or whole egg. However, it excludes fat-free mayonnaise and egg-less mayonnaise where edible fat-replacer(s) and egg-replacer(s) are allowed to replace fat and egg yolk or whole egg. Mayonnaise may contain optional ingredients.

#### Essential Composition and Quality Criteria

##### (a) Raw materials

All ingredients shall be of sound quality and fit for human consumption.

(i) Water shall be of potable quality.

(ii) Raw materials shall comply with the requirements of the relevant Codex standards and in particular the Codex Standards for vinegar and edible vegetable oils, and where appropriate, with the relevant sections of the Codes of practice, in particular the code of hygienic practice for egg products (CAC/RCP 15-1976)

(iii) Raw materials shall be stored, treated and handled under suitable conditions so as to maintain their chemical and microbiological characteristics.

(iv) Eggs and egg products shall be hen eggs or hen egg products.

##### (b) Compositional Requirements

Total fat content, depending upon classification of mayonnaise, following shall be the composition of oil contents for different types of mayonnaise.

Characteristics	Requirements
Real mayonnaise	65%
Mayonnaise	25%
Light mayonnaise	12.5%
Low fat mayonnaise	6%
Fat free mayonnaise	0%
Egg less mayonnaise	Ranges from fat free to real mayonnaise

Technically as per physical & organoleptic requirements, one or more of the following may be used i.e liquid egg yolks, frozen egg yolks, dried egg yolks, liquid whole eggs, frozen, whole eggs, dried whole eggs, or with liquid egg white or frozen egg white.

Optional ingredients & food ingredients intended to influence significantly and in the desired fashion the physical and organoleptic characteristics of the product include:



- (a) Hens egg white
- (b) Hens egg products
- (c) Sugars
- (d) Food grade salt
- (e) Condiments, spices, herbs
- (f) Fruits and vegetables including fruit juice and vegetable juice
- (g) Mustard
- (h) Dairy products
- (i) Water

The following limits should apply to prevent lipid oxidation of fats.

<b>Metal</b>	<b>Maximum limit</b>
Copper	0.05mg/kg
Arsenic	0.1 mg/kg
Lead	0.1 mg/kg

#### (e) Food additives

<b>Characteristics</b>	<b>Requirements</b>
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##### **Acidifying Agents**

Acetic Acid or Na and K salts	Limited by GMP
Citric Acid or Na and K salts	
Lactic Acid or Na and K salts	
Mallic Acid or Na and K salts	
Citrus Fruit juice	

##### **Antioxidants**

Alpha tocopherols & mixed concentrate of tocopherols	240 mg/kg singly or in combination
Ascorbic acid	500 mg/kg
Butylated hydroxyanisole	140 mg/kg
Butylated hydroxyanisole	60 mg/kg
EDTA	75 mg/kg
Ascorbyl palmitate	500 mg/kg

##### **Food Grade Colours**

Curcumin	100 mg/kg singly or in combination
Tartrazine	
Sunset Yellow	
Betacarotene	
Beta-apo-carotenal	
Beta-apo-8-carotenoic acid	
Annatto extracts	100 mg/kg
Chlorophyll	500 mg/kg
Caramel (ammonia type)	500 mg/kg
Beet red	500 mg/kg
Food grade flavors (natural / nature identical)	Limited By GMP

/ artificial)	
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### Preservatives

Benzoic acid Na or K salts	1 g/kg singly or in combination
Sorbic acid or K salt	

### Stabilizers

Carrageenan	As per the physical & organoleptic requirements
Sodium alginate	
Potassium alginate	
Propylene glycol alginate	
LBG	
Guar gum	
Sodium CMC	
Xanthan gum	
Tragacanth	
Microcrystalline cellulose	
Pectins	
Gum acacia	
Starch & modified starch	

### Enzyme Preparations

Glucose oxidase	Limited by GMP
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### Flavour Enhancer

Mono sodium glutamate	1g/kg
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### Crystallization inhibitors

Oxystearin	Limited by GMP
Lecithin	
Polyglycerol	

### Annex: Microbiological Limits for Oil and Fats

Test	Unit	OIL(Veg etable Origin)	OIL (Animal Origin)	Ghee	Butter	Margarine/ Spread	Mayonnaise/ Salad Dressing
Total Plate Count	CFU/m L or g	NA	NA	<50000	<50000	<50000	<50000
<i>E. Coli</i>	CFU/m L or g	NA	NA	NA	<10	<10	<10
Fecal coliform	CFU/m L or g	NA	NA	NA	<100	<100	<100
<i>Listeria mono-cytogenes</i>	CFU/ 25 g	NA	NA	NA	Absent	Absent	Absent
<i>Staph. aureus</i>	CFU/m L or g	NA	NA	NA	Absent	Absent	Absent
Yeast/ Mould	CFU/m L or g	NA	NA	<10	<100	<100	<100
<i>Salmonella</i>	CFU/m L or g	NA	Absent in 25mL or g	NA	Absent in 25mL or g	NA	Absent in 25mL or g

## CHAPTER: 3

### 03.0 Edible Ices, Including Sherbet and Sorbet

This category includes water-based frozen desserts, confections and novelties, such as fruit sorbet, “Italian” style ice and flavored ice.

#### (i) Ice Confection

Means a frozen preparation of potable water with other food. It shall include ice lollipops, ice lollies, edible ices and similar products by whatever the name it is called. It shall not contain any artificial sweetener.

#### (ii) Ice Lollies or Edible Ices

Means the frozen ice produce which may contain sugar, salt, maltodextrin, syrup, fruit, fruit juices, cocoa, permitted acidity regulators, permitted flavours and colours, permitted stabilizers and emulsifiers shall not exceed from maximum limits as given in Codex standards. It shall not contain any artificial sweetener.

#### (iii) Ice candy

Means the frozen ice produce which may contain fruit, fruit juices, cocoa, nuts, citric acid, permitted flavours and colours. It may also contain permitted stabilizers and emulsifiers shall not exceed from maximum limits as given in Codex standards. It shall not contain any artificial sweetener. Edible ices including sherbets and sorbets shall conform to following standards for food additives with relevant notes in the Codex Alimentarius Commission.

INS No.	Food Additive or Group	Max Level
-	Ascorbyl Esters	200 mg/kg
129	Allura Red AC	150 mg/kg
133	Brilliant Blue FCF	150 mg/kg
320	Butylated Hydroxyanisole (BHA)	200 mg/kg
321	Butylated Hydroxyanisole (BHA)	100 mg/kg
-	Carotenoids	200 mg/kg
-	Chlorophylls and chlorophyllins, copper complexes	500 mg/kg
150 C	Caramel iii - Ammonia caramel	1,000 mg/kg
150 D	Caramel iv - Sulfite ammonia caramel	1,000 mg/kg
160 A (II)	Beta-carotenes, vegetable	1,000mg/kg
472 E	Diacetyl tartaric and fatty acid esters of glycerol	1.000mg/kg
637	Ethyl maltol	200 mg/kg
143	Fast Green FCF	100 mg/kg
163 (II)	Grape skin extract	100 mg/kg
-	Iron oxides	300 mg/kg
132	Indigotine (Indigo carmine)	150mg/kg

INS No.	Food Additive or Group	Max Level
-	Phosphates	7,500 mg/kg
-	Polysorbates	1,000 mg/kg
475	Polyglycerol esters of fatty acids	5,000 mg/kg
476	Polyglycerol esters of interesterified ricinoleic acid	5,000 mg/kg
405	Propylene glycol alginate	10,000 mg/kg
477	Propylene glycol esters of fatty acids	5,000 mg/kg
-	Riboflavins	500 mg/kg

-	Sorbitan esters of fatty acids	1,000 mg/kg
-	Stearoyl lactylates	5,000 mg/kg
474	Sucro glycerides	5,000 mg/kg
473 A	Sucrose oligoesters, type i and type ii	5,000 mg/kg
473	Sucrose esters of fatty acids	32mg/kg
110	Sunset yellow FCF	50 mg/kg
-	Tartrates	4,000 mg/kg
-	Tocopherols	500 mg/kg
319	Tertiary butyl hydroquinone (TBHQ)	200 mg/kg

### 03.1 Synthetic Syrup or Sharbat

#### 03.1.1 Sherbats or Syrups

Made from sugar, dextrose, invert syrup, liquid glucose either singly or in combination containing not less than 65 % of total soluble solids and blended with extract / distillates of herbs, flowers, plants and or fruit. It shall be of uniform color, shall possess a pleasant taste and flavor truly characteristic of the flavoring material used. There shall be no crystallization of sugar at 25°C. It may also contain fruit juice and other fruit ingredients appropriate to the product. It shall be free from scum, residuary suspended particles burnt or objectionable taint, flavors, extraneous matter and crystallization. It may contain permitted acidity regulator, food colors, flavors and preservatives. The sulphur dioxide (SO<sub>2</sub>) content shall not exceed 350 parts per million or Benzoic acid and Ascorbic acid content shall not exceed 500 parts per million.

- (i) There shall be written on the label of a package containing flavored syrup, synthetic syrup, flavored / synthetic sharbat the words “—flavored syrup or —synthetic syrup”; or
- (ii) Flavored / synthetic sharbat or the name of such flavor in uniform lettering conjoined with the words “— flavored syrup or—synthetic syrup or—flavored / synthetic sharbat” as the case maybe.
- (iii) The label of a package of flavored, synthetic syrup or flavored / synthetic sharbat shall not include:
  - (a) Any expression, pictorial or design that indicates or suggests or implies that the syrup consists wholly or partly of extracts of fruit or other plant substance; or
  - (b) A pictorial representation or design of fruit or a floral design that indicates or suggests or implies the presence of fruit or extract of fruit or other plant substance in the syrup.

#### 03.1.2 Synthetic Syrup for Use in Dispensers for Carbonated Water

Synthetic syrup for use in dispensers for carbonated water means carbonated water obtained by blending nutritive sweeteners with water and other ingredients appropriate to the product.

The total soluble content (m/m) of the products shall not be less than 30 percent. The product when suitably reconstituted shall conform to the requirements of carbonated water and match in all respects, except carbon dioxide contents, with similar product as bottled or intended for direct consumption. It shall be free from extraneous matter.

The product may contain food additives permitted in these regulations. The product shall conform to the microbiological requirements. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container (at 20°C), when packed in the rigid containers.

#### 03.1.3 Sugar free sherbets, syrups:

Sugar free sherbet, syrups shall conform the standards of sherbets and syrups except added sugar free sherbets or syrups, total soluble solids content shall be not less than 8 percent. Sugar free sherbets and syrups may contain permitted sweeteners.

**Annex: Microbiological limits for “ready to drink” drinks/sherbet and edible ices**

<b>Sr. No</b>	<b>Parameters</b>	<b>Limits</b>
1	Total Plate Count (per mL or g)	<50,000
2	Coliforms (per mL or g)	<100
3	<i>E. coli</i> (per mL or g)	Absent
4	<i>Listeria monocytogenes</i> (per mL or 25 g)	Absent

## CHAPTER: 4

### 04.0 Fruits and Vegetables (including Mushrooms and Fungi, Roots and Tubers, pulses and Legumes, and Aloe vera), Seaweeds, and Nuts and Seeds

#### 04.1 Fruit

##### 04.1.1 Fresh fruit

##### 04.1.1.1 Untreated Fresh Fruit

Raw fruit presented fresh from harvest. The following minimum requirements must be met in all untreated fresh fruits.

- (i) Whole, the stalk (stem) may be missing, provided the bark is clean and the adjacent skin is not damaged;
- (ii) Sound, produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;
- (iii) Firm
- (iv) Clean, practically free of any visible foreign matter;
- (iv) Practically free of pests and damage caused by them affecting the general appearance of the produce;
- (v) Free of abnormal external moisture, excluding condensation following removal from cold storage;
- (vi) Free of any foreign smell and/or taste;
- (vii) Free of damage caused by low and/or high temperatures;
- (viii) Practically free of signs of dehydration.
- (ix) To withstand transport and handling; and
- (x) Included therein shall be allowed not more than 1% for affected by decay or internal breakdown

#### Raw Fruit or Fresh Fruit

Shall be the fruit that is not dried, pulped, dehydrated, frozen, canned, candied or pickled. It shall not be withered, shriveled, discolored or bruised. Fresh food shall not have any permitted additives.

##### 04.1.1.2 Surface-Treated Fresh Fruit

Calcium carbide and related salts shall not be used for artificial ripening of fruits and vegetables, whereas, as of now only Ethylene is permitted to be used as an artificial ripening agent.

The surfaces of certain fresh fruit are coated with food grade glazes or waxes or are treated with other food additives that act as protective coatings and/or help to preserve the freshness and quality of the fruit. Examples include apples, oranges and dates.

Use of additives in fruits and vegetables

Food Category Name	Food Additive	INS No	Recommended Maximum Level
Surface treated fresh fruits	Beeswax	901	GMP
	Candelilla Wax	902	GMP
	Carnauba Wax	903	GMP
	Glycerol ester of wood rosin	445	110mg/kg
	Iron Oxide	172 (I) - (III)	1000 mg/kg
	Micro crystalline Wax	905 C (I)	50 mg/kg
	Ortho-phenylphenol	231	12 mg/kg
	Sodium Orthophenylphenol	232	
	Polyethylene Glycol	1521	GMP
	Polyvinylpyrrol iodine	1201	GMP
	Sulfites	220	30 mg/kg
	Sucrogly cerides	474	GMP

#### 04.1.1.3 Peeled or Cut Fresh Fruit

Fresh fruit that is cut or peeled and presented to the consumer, e.g. a fruit salad includes fresh shredded or flaked coconut.

#### Use of additives in Fruits and Vegetables

Food Category Name	Food Additive	ISN No	Recommended Maximum Level
Peeled or cut fresh fruits	Calcium ascorbate	302	GMP
	Carbon dioxide	290	GMP
	Nitrogen	941	GMP
	Nitrous oxide	942	GMP
	Potassium ascorbate	303	GMP
	Sodium ascorbate	301	GMP
	Calcium chloride Calcium lactate Calcium gluconate Calcium carbonate	-	350 ppm

#### 04.1.2 Processed Fruit

##### 04.1.2.1 Includes all Forms of Processing other than Peeling, Cutting and Surface Treating Fresh Fruit

#### Use of Additives in Fruits and Vegetables

Food Category Name	Food Additive	INS No	Recommended Maximum Level
Processed Fruits	Carnauba Wax	903	GMP
	Sulfities	220	500 mg/kg

#### 04.1.2.2 Dried fruit

Shall be the clean, sound, wholesome of any suitable variety fully ripe and free from insect or fungal attack or any other blemish affecting the quality of the dried product. The dried product shall be derived from such fruits as apples, apricots, peaches, pears, resins, sultans, figs, currants, dates, plum and others. It shall be free from added ingredients and colouring matter. It shall conform to the following standards:

(a) For all fruits except dried dates	Not more than 14 percent
Moisture	Not more than 5 percent
Damaged fruits	
(b) For dried dates	
Moisture	Not more than 12 percent
Shriveled fruits	Not more than 15 percent
Damaged fruits	Nil

#### Mixed Dried Fruit

Shall be the product prepared by mixing dried fruits and shall conform to the standards of dried fruit. It shall contain not less than 70% of dried fruit and may contain no more than 15% of citrus peel. There shall be written on the label of a package containing mixed dried fruit the word "mixed dried fruit" (state the name of the fruit), as the case may be.

#### (a) Desiccated Coconut

Means the dried and shredded kernel of the fruit of *Cocos nucifera*. It shall contain not less than 50 percent of coconut oil and not more than 3 percent of water.

#### (b) Dried Apricots, Figs and Plums, Prunes and like Products

This standard applies to dried fruits which have been suitably treated or processed and which are offered for direct consumption. It also covers dried apricots/ figs/plums/prune or like products which are packed in bulk containers and which are intended for repacking into consumer size containers or for direct sale to consumers

(a) Prepared from sound ripe fruit

(b) Processed by drying either by the sun or by other recognized methods of dehydration, which may be preceded by sulphuring, into a form of marketable dried product styles.

The product shall be presented in one of the following styles

Whole, unpitted

Whole, pitted

Whole, pitted and stuffed with edible materials

Halves

Slabs - consisting of portions of sound, ripe apricots of characteristic colour, irregular in shape, size and thickness and excluding whole fruit

Kamaradin - consisting of dried apricot pulp or paste prepared as a sheet or flakes.



## Optional ingredients

Other edible material as may be appropriate to stuffing the product, including nutritive carbohydrate sweeteners as approved by the Codex Alimentarius Commission.

- (i) Free from living insects or mites;
- (ii) Mineral impurities - may not be present to the extent that the eating quality or usability is materially affected;
- (iii) Foreign matter - practically free from extraneous vegetable matter, insect debris and other objectionable matter.

Food Additive	Maximum Level
Sorbic acid and its sodium and potassium salts	500 mg/kg, singly or in combination, expressed as sorbic acid
Sulphur dioxide	20000 mg/kg

### 04.1.2.3 Fruit in Vinegar, Oil or Brine

Includes pickled products such as pickled plums, mango pickles, lime pickles, pickled gooseberries, and pickled watermelon rind. Oriental pickled ("cured" or "preserved") fruit products.

### 04.1.2.4 Canned or Bottled (Pasteurized) Fruit

#### (a) Canned fruit

Means the food prepared from clean, fresh fruit, approaching maturity and not over ripe. It shall be free from blemishes, stalks, leaves and other extraneous matter and shall be the sound, wholesome fruit of one type, packed in clean containers that are hermetically sealed and processed by heat. Canned fruit may contain sugar and potable water. The fruit so contained shall be of similar varietal characteristics and of reasonably uniform size. When the fruit is required to be cut, it shall be cut in halves, quarters, or cubes reasonably uniform in size. It shall be free from added colouring matter. It shall conform to the following standards:

- (i) Drained Weight content Not less than 50 percent of the net weight of
- (ii) Concentration of packing syrup
  - (a) Lightly sweetened Not less than 14° Brix
  - (b) Heavily sweetened Not less than 18° Brix
- (iii) Minimum container fill The Container shall be filled with fruit and medium not less than 90% of the water capacity of the container.

#### (b) Canned Fruit Cocktail

Shall be a mixture of two or more types of sound, wholesome fruits packed in clean containers that are hermetically sealed and processed by heat. Canned fruit cocktail may contain sugar and potable water. It shall be free from added colouring matter and may contain permitted food conditioners.

- (i) Drained Weight content Not less than 50 percent of the net weight of
- (ii) Concentration of packing syrup
  - (a) Lightly sweetened Not less than 14° Brix
  - (b) Heavily sweetened Not less than 18° Brix
- (iii) Minimum container fill The Container shall be filled with fruit and medium not less than 90% of the water capacity of the container

#### (c) Canned Citrus Fruits

This standard applies to certain canned citrus fruits, as defined in below, and offered for direct consumption, including for catering purposes or for repacking if required. It does not apply to the product when indicated as being intended for further processing. It shall comply with the following standards:

- (i) Drained Weight content Not less than 50 percent of the net weight of
- (ii) Concentration of packing syrup
  - (a) Lightly sweetened Not less than 14° Brix
  - (b) Heavily sweetened Not less than 18° Brix
- (iii) Minimum container fill The Container shall be filled with fruit and medium not less than 90% of the water capacity of the container

The canned citrus fruit is the product:

- (i) Prepared from washed, sound and mature ripe grapefruit (*citrus paradise macfadyen*), mandarin oranges (*citrus reticulate blanco*, including all the suitable commercial varieties for canning), sweet orange varieties (*citrus sinensis* (l.), osbeck, including all the suitable commercial varieties for canning) or pummelo (*citrus maxima merr.* or *citrus grand* (l).
- (ii) Packed with water or other suitable liquid packing medium, sugars as defined in the standard for sugars (Codex Standard 212-1999), honey as defined in the standard for honey (Codex Standard 12-1981), suitable spices or flavouring ingredients appropriate to the product.
- (iii) Processed by heat, in an appropriate manner, before or after being hermetically sealed in a container, so as to prevent spoilage. Before processing, the fruit shall have been properly washed and peeled and the membrane, seeds and core and fiber strands originating from albedo or core, shall have been substantially removed from the sections. It shall comply with the following standards:

Product	Whole	Broken	Twin	Pieces
Canned sweet orange	Not less than 75% of original segment	Less than 75% of original segment		
Canned Grape Fruit				
Canned pummelo	Not less than 50% of original segment	Less than 50% of original segment		Large enough to remain on a screen having 8mm <sup>2</sup> openings formed by a wire of 2mm diameter
Canned mandarin orange	Not less than 75% of original segmnet	Not less than 50% of original enough to remain on a screen having 8 mm <sup>2</sup> openings formed by wire of 2mm diameter	See definitions for whole expect two or three segements joined together, which have not been seprated during processing	

## **(ii) Food Additives**

Acidity regulators and firming agents used in accordance with tables (1) and (2) of the general standard of food additives (Codex Standards 192-1995) in food category 04.1.2.4 (canned or bottled (pasteurized) fruit) or listed in table (3) of the general standard for food additives are acceptable for use in foods conforming to this standard.

### **04.1.2.5 Jams, Jellies, Marmalade**

#### **(i) Jam**

Means the product obtained by processing single or mixed fresh fruit, fruit pulp, canned fruit or dried fruit with potable water, sugar, dextrose, invert sugar or liquid glucose, either singly or in combination by boiling to a suitable consistency and with or without citric, malic, ascorbic acids, permitted preservatives and permitted colours and pectin in the form of fruit juice or pulp or powder. It shall conform to the following standards:

(i) Soluble solids m/m	Not less than 65%
(ii) Fruit content, except the case of strawberry and raspberry	Not less than 45%
(iii) Raspberry jams fruits content	Not less than 25%
in the case of Strawberry/Raspberry jams	

#### **Mixed Fruit Jam**

##### **(a) Two fruits:**

When a jam or jelly contains a mixture of two fruits, the first-named fruit shall contribute not less than 50 percent, nor more than 75 percent, of the total fruit content except when melon, passion fruit, lemon, papaya, or ginger is one of the two fruits. When melon or papaya is a constituent it may be present up to a level of 95 percent and where pineapple, passion fruit, lemon, and ginger are present they shall be present at a level of not less than 5 percent with the major ingredient being permitted at a level greater than 75 percent.

##### **(b) Three fruits:**

When a jam or jelly contains a mixture of three fruits, the first-named fruit shall contribute not less than 33 percent, nor more than 75 percent of the total fruit content.

##### **(c) Four or more fruits**

When a jam or jelly contains a mixture of four or more fruits, the first-named shall contribute not less than 25 percent nor more than 75 percent, of the total fruit content.

#### **(ii) Fruit Jelly**

Means the product of gelatinous consistency prepared by boiling strained fruit juice with sugar, and having the flavour of the named fruit. It shall be free from burnt or other objectionable flavours, crystallization, fermentation and mould growth. Jelly marmalade shall be clear jelly in which are suspended slices of peel or fruit are present. It shall conform to the standards of jam given above.

#### **(iii) Marmalade**

Means the product made from any combination of peel, pulp, and juice of the named citrus fruit by boiling with water, sugar, dextrose, invert sugar or liquid glucose, high fructose glucose, either singly or in combination, to a suitable consistency and with or without an acid ingredient in an amount that reasonably compensates for any deficiency in the natural acidity of the fruit used in its preparation, consisting of citric, malic, tartaric or ascorbic acid, lemon or lime juice and cider vinegar. It shall conform to the following standards:

(i)	Soluble solids m/m	Not less than 65%
(ii)	Fruit content of the named fruit (except peel)	Not less than 45%
(iii)	Preservative as sulphur dioxide	Not more than 40 parts per million
(iv)	Peel in suspension	Not more than 5%

(i) Products when indicated as being intended for further processing such as those intended for use in the manufacture of fine bakery wares, pastries or biscuits

(ii) Products which are clearly intended or labelled as intended for special dietary uses

(iii) Reduced sugar products or those with a very low sugar content

(vi) Products where the foodstuffs with sweetening properties have been replaced wholly or partially by food additive sweeteners

(v) The terms, “preserve” or “conserve” are sometimes used to represent products covered by this standard. The use of the terms “preserve” and “conserve” are thereby required to comply with the requirements for jam as set out in this standard. The products, shall be produced such that the quantity of fruit ingredient used as a percentage of finished product shall be not less than 45% in general, with the exception of the following fruits:

- i. 35% for blackcurrants, mangoes, quinces, rambutan, redcurrants, rosehips, roselles, rowanberries and sea-buckthorns.
- ii. 30% for soursop and cranberry
- iii. 25% for banana, cempedak, ginger, jackfruit and sappota
- iv. 23% for cashew apples
- v. 20% for durian
- vi. 10% for tamarind
- vii. 35% fig jam
- viii. 35% Mulberry jam
- ix. 20 % Orange marmalade
- x. 15% Ginger marmalade
- xi. 8% for passion fruit and other strong flavoured or high acidity fruits.

#### **(a) Citrus marmalade**

The product, shall be produced such that the quantity of citrus fruit ingredients used in the manufacturing of 1000 g of finished product must not be less than 200 g of which at least 75 g must be obtained from the endocarp. In addition, the term “jelly marmalade” may be used when the product contains no insoluble matter but may contain small quantities of thinly cut peel.

#### **(b) Non-Citrus Marmalade**

The product, shall be produced such that the quantity of fruit ingredient used as a percentage of the finished product shall not be less than 30% in general, with the exception of the following fruits 11% for ginger.

### (c) Other Permitted Ingredients

Any appropriate food ingredient of plant origin may be used in the products covered by this standard. This includes fruit, herbs, spices, nuts, and essential oils and vegetable edible oils and fats (used as antifoaming agents), as long as they do not mask poor quality and mislead the consumer for example, red fruit juice and red beetroot juice may only be added to jams made from gooseberries, plums, raspberries, redcurrants, rhubarb, rosehips, rosella or strawberries. The soluble solids content for the finished products shall in all cases be not less than 65%.

**Note:** *The fruit contents in Jams and Marmalades shall be mentioned on the label of the products.*

### (d) Food Additives

Only those food additive classes listed below are technologically justified and may be used in products covered by this standard. Within each additive class only those food additives listed below, or referred to, may be used and only for the functions, and within limits specified, acidity regulators, antifoaming agents, firming agents, preservatives and thickeners used in accordance with codex general standard for food additives (Codex Standard 192-1995) are acceptable for use in foods conforming to this standard.

#### (i) Acidity Regulators, Antifoaming Agents, Colorants and Preservatives.

<b>Acidity Regulators</b>	<b>Maximum Level</b>
Tartrates	3,000 mg/kg
<b>Anti Foaming agents</b>	<b>Maximum Level</b>
Poly dimethylsiloxane	10 mg/kg
<b>Food additive</b>	<b>Maximum Level</b>
Curcumin	500 mg/kg
Ponceau 4R (cochineal red A)	100 mg/kg
Riboflavin's	200 mg/kg
Quinoline Yellow	100 mg/kg
Sunset Yellow FCF	300 mg/kg
Allura Red AC	100 mg/kg
Brilliant Blue FCF	100 mg/kg
Chlorophylls	GMP
Chlorophylls	GMP
Chlorophylls and Chlorophyllins, Copper Complexes	200 mg/kg
Fast green FCF	400 mg/kg
Caramel I- Plain Caramel	GMP
Caramel II- Sulfite Caramel	80,000 mg/kg
Caramel III- Ammonia	80,000 mg/kg
Caramel IV-Sulfite Ammonia caramel	1,500 mg/kg
Carotenes, Beta, Synthetic	500 mg/kg

<b>Colorants</b>	<b>Maximum Level</b>
Carotenes, beta, vegetables	1000 mg/kg
Lycopenes	100 mg/kg
Lutein from Tagetes erecta	100 mg/kg

Beet Red	GMP
Grape skin extarct	500 mg/kg
Iron Oxides	200 mg/kg

Preservatives	Maximum Level
Sorbates	1000 mg/kg
Benzoates	1000 mg/kg
Sulfites	50 mg/kg as residual SO <sub>2</sub> in the end product, except when made with sulfited fruit, when a maximum level of 100 mg/kg is permitted in the end product

### iii) Flavourings

The following flavourings are acceptable for use in foods conforming to this standard when used in accordance with good manufacturing practices and in compliance with the Codex guidelines for the use of flavourings (CAC/GL 66-2008): natural flavouring substances that are extracted from the named fruits in the respective product; natural mint flavour; natural cinnamon flavour; vanillin, vanilla or vanilla extracts.

#### 04.1.2.5.1 Contaminants

The products covered by this standard shall comply with the maximum levels of the Codex General Standard for contaminants and toxins in food and feed (codex Standard 193-1995). The products covered by this standard shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission.

#### 04.1.2.6 Fruit-based Spreads (e.g. Chutney) Excluding Products of Food Category 4.1.2.5

##### Fruit Chutney

Means a product prepared from clean, sound, wholesome fruit or vegetable either singly or in combination, with spices, salt, sugar, onion, garlic and vinegar with or without nuts. It may contain caramel as colouring substance. It may contain permitted colouring matter. It shall conform to the following standards:

- |  |                            |
|--|----------------------------|
| (i) Total soluble solids m/m           | Not less than 50 percent   |
| (ii) Acidity calculated as citric acid | Not less than 0.75 percent |
| (iii) Acetic acid                      | Not more than 2.0 percent  |
| (iv) Total ash                         | Not more than 5.0 percent  |

The minimum percentage of fruit in the final product shall not be less than 40. There shall be written on the label of a package containing chutney the word "chutney" and this word may be preceded in uniform lettering with the name of the fruit or vegetables provided that the fruit or vegetable so named is present in the chutney in any proportion of not less than 40 percent of the total fruit or vegetable so present.

##### Mango Chutney

Means the product prepared from washed clean sound mango (*Mangifera Indica L.*) of any suitable variety, which have been peeled, sliced or chopped or shredded or comminuted and cooked with nutritive sweeteners. It may contain salt, spices, condiments and any other ingredient suitable to the product and preserved by thermal processing/ or other means. It shall meet the following requirements:

- |                              |                            |
|------------------------------|----------------------------|
| (i) Total soluble solids m/m | Not less than 50.0 percent |
| (ii) Fruit content (m/m)     | Not less than 40.0 percent |

(iii) Acidity as citric Acid	Not less than 0.75 percent
(iv) Acetic Acid	not more than 2.00 percent
(v) Total Ash	Not more than 5.0 percent
(vi) Ash insoluble in Hydrochloric acid	Not more than 0.5 percent
(vii)pH	Not more than 4.6

The container shall be well filled with the product and shall occupy not less than 90.0 percent of the net weight of the container, when packed in the rigid containers. The net weight of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

#### 04.1.2.7 Candied Fruit

- Candied Fruits / Vegetables/ Rhizome / Fruit Peel means the product prepared from sound and ripe fruits, vegetables, rhizomes or fruit peel, of any suitable variety, appropriately prepared, by impregnating it with nutritive sweeteners to a concentration adequate to preserve it.
- Crystallised Fruit / Vegetable/ Rhizome / Fruit Peel means the product prepared from candied product by coating with pure crystallised sugar or by drying the syrup on wet candied fruit.
- Glazed Fruit/ Vegetable/Rhizome / Fruit Peel means the product prepared from candied product by coating it with a thin transparent layer of heavy syrup with or without pectin which has dried to a more or less firm texture on the product.

It shall meet the following requirements:

- |  |                    |
|--|--------------------|
| (i) The percentage of total sugar (w/w)          | Not less than 70.0 |
| (ii) Percentage of reducing sugar to total sugar | Not less than 25.0 |

#### (a) Fruit and Vegetable Preserve (Morabba)

The preserve shall be prepared from single or mixed fruits or vegetables. The fruit or vegetable used shall be mature, fresh, sound and clean. The product shall contain no artificial sweetening agent, coloring or favoring matters, and no preservatives except benzoic acid or sorbic acid to the extent of 40 ppm. The fruit shall retain its form and shall be impregnated with syrup without shrinkage of the individual pieces. It shall have flavour of the original fruit or vegetable and shall be free from burnt or other objectionable flavours, crystallization and mould growth. The total soluble solids in the covering syrup shall be not less than 65 percent and the fruit or vegetable in the final product shall be not less than 50 percent.

Food Category Name	Food Additive	Recommended Maximum Level
	Allura red Ac	100 mg/kg
	Annatto	200 mg/kg
	Aspartame	2,000 mg/kg
	Benzoates	1000 mg/kg
	Brilliant blue FCF	200 mg/kg
	Canthaxanthin	200 mg/kg
	Carotenoids	200 mg/kg
	Chlorophylls, Copper Complexes	250 mg/kg
	Chlorophyllin copper complexes, sodium and potassium salts	-
	Caramel III - ammonia caramel	200 mg/kg
	Caramel IV - sulfite ammonia caramel	7,500 mg/kg
	Beta-carotenes, vegetable	1,000 mg/kg
	Curcumin	200 mg/kg
	Diacetyl tartaric and fatty acid	1,000 mg/kg

Candied Fruits	esters of	
	Glycerol Erythrosine	100 mg/kg
	Fast green FCF	200 mg/kg
	Grape skin extract	1,000 mg/kg
	Ethyl para- hydroxybenzoate	100 mg/kg
	Methyl para-hydroxybenzoate	100 mg/kg
	Iron oxide, black	250 mg/kg
	Iron oxide, red	
	Iron oxide, yellow	
	Indigotine (indigo Carmine)	200 mg/kg
	Neotame	65 mg/kg
	Phosphates	10 mg/kg
	Ponceau 4R (cochineal red A)	200 mg/kg
	Riboflavin, synthetic	300 mg/kg
	Riboflavin 5-phosphate sodium	
	Riboflavin (bacillus subtilis)	
	Sorbic Acid	
	Sodium Sorbate	
	Potassium Sorbate	500 mg/kg
	Calcium Sorbate	
	Sulfites	100 mg/kg and 40 mg/kg for murabba
	Sucralose (trichlorogalactosucrose)	800 mg/kg
	Sunset yellow FCF	200 mg/kg
	Tartrazine	200 mg/kg
	Tartaric Acid	GMP
	Citric, malic Acid	GMP
	Ascorbic Acid Calcium Chloride Calcium Lactate Calcium Bisulphate Calcium Carbonate	GMP

#### 04.1.2.8 Fruit Preparations, Including Pulp, Purees, Fruit Toppings and Coconut Milk

Fruit pulp is not usually intended for direct consumption. It is a slurry of lightly steamed and strained fresh fruit, with or without added preservatives. Fruit puree (e.g., mango puree, prune puree) is produced in the same way, but has a smoother, finer texture, and may be used as fillings for pastries, but is not limited to this section. Fruit sauce (e.g., pineapple sauce or strawberry sauce) is made from boiled fruit pulp with or without added sweeteners and may contain fruit pieces. Fruit sauce may be used as toppings for fine bakery wares and ice creams. Fruit syrup (e.g. blueberry syrup) is a more liquid form of fruit sauce that may be used as a topping e.g., for pancakes. Non-fruit toppings are included in category of sugar- and chocolate-based toppings.

##### (a) Coconut Milk and Coconut Cream

Products prepared using a significant amount of separated, whole, disintegrated macerated or comminuted fresh endosperm (kernel) of coconut palm and expelled, where most filterable fibers and residues are excluded, with or without coconut water, and/or with additional water. Coconut milk and coconut cream are treated by heat pasteurization, sterilization or ultra-high temperature (UHT)



processes. Coconut milk and coconut cream may also be produced in concentrated or skim (or “light”) forms.

These food additives can be used in given requirements.

Food Category Name	Food Additive	Recommended Maximum Level
Fruit preparations including pulp, purees, fruit toppings and coconut milk	Tocopherols	150 mg/kg
	Sunset Yellow FCF	300 mg/kg
	Sucrose esters of fatty acids	1,500 mg/kg
	Sucrose oligoesters, type I and type ii	1,500 mg/kg
	Sucroglycerides	1,500 mg/kg
	Sucralose (Tri chloro galacto sucrose)	400 mg/kg
	Steviol Glycosides	330 mg/kg
	Sulfites	100 mg/kg
	Stearoyl lactylates	2,000 mg/kg
	Sorbitan esters of fatty acids	5,000 mg/kg
	Sorbates	1,000 mg/kg
	Saccharins	200 mg/kg
	Riboflavins	300 mg/kg
	Propylene glycol esters of fatty acids	40,000 mg/kg
	Propylene glycol alginate	5,000 mg/kg
	Propyl glycol	2,000 mg/kg
	Ponceau 4R (cochineal red a)	50 mg/kg
	Polyglycerol esters of fatty acids	5000 mg/kg
	Polysorbates	1000 mg/kg
	Phosphates	350 mg/kg
	Neotame	100 mg/kg
	Indigotine (indigo carmine)	150 mg/kg
	Hydroxybenzoates, para	800 mg/kg
	Grape skin extract	500 mg/kg
	Fast green FCF	100 mg/kg
	Diacetyltartaric and fatty acids esters of glycerol	2500 mg/kg
	Beta-carotenes, vegetable	100 mg/kg
	Carnauba Wax	400 mg/kg
	Caramel IV- sulfite ammonia caramel	7500 mg/kg
	Caramel III - Ammonia Caramel	7500 mg/kg
	Cyclamates	250 mg/kg
	Chlorophylls and chlorophyllins, copper complexes	100 mg/kg
	Carotenoids	100 mg/kg
	Brilliant Blue FCF	100 mg/kg
	Benzoates	1000 mg/kg
	Aspartame-acesulfame salt	350 mg/kg
	Aspartame	1000 mg/kg
	Allura Red AC	300 mg/kg
	Acesulfame potassium	350 mg/kg

#### 04.1.2.9 Cooked Fruit

Fruit that is steamed, boiled, baked, or fried, with or without a coating, for presentation to the consumer, examples include: baked apples, fried apple rings, and peach dumplings (baked peaches with a sweet dough covering).

Food Category name	Food Additive	INS No	Recommended maximum Level
Cooked fruits	Acesulfame Potassium	950	500 mg/kg
	Aspartame	951	1,000 mg/kg
	Benzoates		1,000 mg/kg
	Chlorophylls And Chlorophyllins, Copper Complexes		100 mg/kg
	Carnauba Wax	903	400 mg/kg
	Neotame	961	65 mg/kg
	Sorbates		1200 mg/kg
	Steviol Glycoside	960	40 mg/kg
	Sucralose (trichlorogalactosucrose)	965	150 mg/kg

**04.2 Vegetables** (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds.

**04.2.1 Fresh vegetables**, (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds and nuts and seeds “fresh vegetable” shall be vegetable that is not dehydrated, dried, canned or frozen and is not shriveled or discoloured. Fresh vegetables are generally free of additives. However, fresh vegetables that are coated or cut or peeled for presentation to the consumer may contain permitted food additives.

##### 04.2.1.1 Untreated fresh vegetables,

(including mushrooms and fungi, roots and tubers, pulses and legumes (including soybeans), and aloe vera, seaweeds and nuts and seeds.

**04.2.1.2 Surface-treated fresh vegetables**, (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds and nuts and seeds the surfaces of certain fresh vegetables are coated with glazes or waxes or are treated with other food additives that act as protective coatings and/or help to preserve the freshness and quality of the vegetable, examples include: avocados, cucumbers, green peppers and pistachio nuts.

Food Additive or Group	INS No	Recommended Maximum Level
Beeswax	901	GMP
Carotenoids		500 mg/kg

Candelilla wax	902	GMP
Carnauba wax	903	400 mg/kg
Glycerol ester of wood rosin	445(iii)	110 mg/kg
Lauricarginate ethyl ester	243	200 mg/kg
Microcrystalline wax	945 C (1)	50mg/kg
Phosphates		1,760 mg/kg
Riboflavins		300 mg/kg
Sunset yellow FCF	110	300 mg/kg

#### 04.2.1.3 Peeled, Cut or Shredded Fresh Vegetables, (including Mushrooms and Fungi, Roots and Tubers, pulses and Legumes, and Aloe Vera), Seaweeds and Nuts and Seeds

Fresh vegetables, e.g. peeled raw potatoes, that are presented to the consumer to be cooked at home (e.g. in the preparation of hash brown potatoes).

Food Additive or group	INS No.	Maximum Level
Phosphates	-	5,600 mg/kg
Sulfites	-	50 mg/kg
Sodium ascorbate	301	GMP

**04.2.2 Processed Vegetables** (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds Includes all forms of processing other than peeling, cutting and surface treating fresh vegetables.

**04.2.2.1 Frozen Vegetables** (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds and nuts and seeds Frozen vegetable” shall be the fresh vegetable that is maintained in a frozen wholesome condition for one continuous period at a temperature below minus 18°C and has not been thawed before sale.

**04.2.2.2 Dried Vegetables** (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts.

“**Dried or dehydrated vegetable**” shall be the raw edible part of vegetable, dehydrated under natural or artificially induced condition. It shall not contain more than 8 per cent of water and may contain permitted preservative.

#### (i) Dehydrated Onion (Sukha Pyaaz)

Means the product obtained by removal of moisture by any acceptable method which ensures characteristics of fresh onions on rehydration, from sound bulbs of *allium cepa*(l). Free from mould, disease, outer skin, leaves and roots. The product may be in the form of slices, rings, flakes, pieces, small grits or powder. The product may be white/cream/pink or red in color, free from stalks, peels, stems and extraneous matters and scorched particles. The finished product shall be free from discoloration or enzymatic reaction. The product on rehydration shall be of characteristic flavour, free from foreign and off flavour, mustiness, fermentation and rancid flavour. It shall be free from mould, living and dead insects, insect fragments and rodent contamination. The product shall be free from added coloring matter and any

other harmful substances. When in powdered form, it shall be free flowing and free from agglomerates. The products may contain food additives permitted in Codex and it shall conform to the following standards namely:

a. Extraneous matter moisture	Not more than 0.5 percent by weight
b. Moisture	
(i) In case of powdered onion	Not more than 5.0 percent by weight
(ii) Other than powdered onion	Not more than 8.0 percent by weight
c. Ash insoluble in dilute HCL	Not more than 0.5 percent by weight
d. Peroxidase	Negative

## **(ii) Fried Onion:**

The onions after necessary preparation such as peeling, cutting, size reduction are fried in edible oils and salt and pepper may also be added and shall conform to the following standards:

Moisture Not more than 7.0 percent.

Free fatty acids <1%

Peroxide value <15 milli equivalents/kg

### **04.2.2.3 Vegetables (including Mushrooms and Fungi, Roots and Tubers, Pulses and Legumes, and Aloe vera), and Seaweeds in Vinegar, Oil, Brine, or Soybean sauce**

Products prepared by treating raw vegetables with salt solution excluding fermented soybean products. Fermented vegetables, which are a type of pickled product, are classified in section (04.2.2.7.) Examples include pickled cabbage, pickled cucumber, olives, pickled onions, mushrooms in oil, table olives.

## **(i) Table Olives**

Table olives means the product obtained from sound clean fruits of proper maturity from olive tree (*Olea europaea sativa*) and suitably processed and preserved by natural fermentation / thermal processing or by addition of preservative. The product may be in the form of green olives, olives turning colour before complete ripeness or black olives and may be whole, stoned (pitted) stuffed, halved, quartered, sliced, chopped, minced or in broken form. The product may contain water, common salt, vinegar, olive oil, nutritive sweeteners and stuffing material pimiento, onion, almond, celery, anchovy, olive, orange or lemon peel, hazelnut, capers etc singly or in combination or in the form of a paste, spices, spice extracts and aromatic herbs. The product shall be of uniform colour except seasoned olives and olives turning colour free from any foreign matter, off flavour and taste and abnormal fermentation. It shall conform to the following requirements:

<b>Product in brine</b>	<b>Sodium chloride in brine</b>	<b>pH of brine</b>	<b>Acidity of brine as Lactic acid</b>
Green olives treated/untreated	-	-	-
In hermetically sealed containers	Not less than 5.0 percent	Not more than 4.0	-
In non-hermetically sealed containers	Not less than 6.0 percent	Not more than 4.5	-
With natural lactic fermentation	-	-	Not less than 0.4 percent
Seasoned green	-	-	-

olives			
In hermetically sealed containers	Not less than 4.0 percent	Not more than 4.0	-
In non-hermetically sealed containers	Not less than 6.0 percent	Not more than 4.5	-
Olives turning color- all treatments	Not less than 6.0 percent	-	-

## Black Olives

in brine	Not less than 7.0 percent		
In dry salt	Not less than 10.0 percent		
Damaged matter		Not more than 2.0 percent by count	

### 04.2.2.4 Canned or Bottled (pasteurized) or Retort Pouch Vegetables (including Mushrooms and Fungi, Roots and Tubers, Pulses and Legumes, and Aloe vera), and Seaweeds.

Fully preserved product in which fresh vegetables are cleaned, blanched, and placed in cans or jars in liquid (e.g., brine, water, oil or sauce), and heat-sterilized or pasteurized. Examples include: canned chestnuts, canned peas, canned baby corn, asparagus packed in glass jars, canned and/or cooked/baked beans, canned tomato paste/ puree (low acid), and canned tomatoes (pieces, wedges or whole), canned mushrooms, etc.

#### (a) Bottled or Canned Vegetables

Means the food prepared from clean, wholesome, fresh vegetables of good characteristic colour and flavour, free from pods, stalks, detached skin, blemishes and extraneous matter, woody fiber, roots, with or without spices and condiments. It shall not contain any preservatives or colours except in the case of peas, beans and spinach. It shall be free from all kinds of spoilage and shall be in hermetically sealed containers. It shall conform to the following standards

- (i) Drained weight of vegetable      Not less than 50 percent of the net weight
- (ii) Strength of packing brine      Not less than 1.25 percent and not more than 2.5 percent
- (iii) Fill of containers      Head space not more than 10 percent of the inside height of the can or bottle

(ii) Where canned vegetable contains at least 50 percent of vegetable mixed with other food, there shall be written on the label of a package containing such food the words “vegetable with (state the name of the other food)” or “(state the name of the vegetable) with (state the name of the other food)”.

(iii) Where canned vegetable contains two or more kinds of vegetables, there shall be written on the label of a package containing such food, not less than 10 point lettering, the words “mixed vegetable”, immediately followed, in not less than 4 point lettering, by the names of vegetables.

### 04.2.2.5 Vegetable (including Mushrooms and Fungi, Roots and Tubers, Pulses and Legumes, and Aloe vera), Seaweed, and Nut and Seed purees and Spreads (e.g. Peanut butter)

Vegetable purees are finely dispersed slurries prepared from the concentration of vegetables, which may have been previously heat-treated (e.g., steamed). The slurries may be filtered prior to packaging. Purees contain lower amounts of solids than pastes, examples include: tomato puree, peanut butter (a spreadable paste made from roasted and ground peanuts by the addition of peanut oil), other nut butters (e.g., cashew butter).

#### **(a) Tomato Paste or Tomato Puree**

##### **Tomato Puree**

Tomato concentrate that contains not less than 7% but less than 24% of natural total soluble solids.

##### **Tomato Paste**

Tomato concentrate that contains at least 24% of natural total soluble solids.

#### **(i) Composition**

Basic ingredients: processed tomato/concentrate, other permitted ingredients salt (sodium chloride) in accordance with the standard for food grade salt (Codex Standards 150-1985); spices and aromatic herbs (such as basil leaf, etc.) and their natural extracts; Use of Acidulents; Lemon Juice (single strength or concentrated) / Citric acid and Acetic acid may also be added

For improving the taste and shelf life of puree/paste, permitted preservative are also allowed. Processed tomato concentrates shall have good flavour and odour, fairly good red colour, and shall possess a homogeneous (evenly divided) texture, characteristic of the product must comply with the following standards

The pH must be below 4.6.

#### **(b) Peanut Butter**

Means the product obtained by grinding clean, sound, wholesome, roasted peanut kernels that have been decorticated. It may contain sugar, dextrose, invert sugar or liquid glucose, either singly or in combination. It shall not contain less than 85 percent of peanut and not less than 20 percent of protein. It shall not contain more than 55 percent of edible fat and edible oil and not more than 3 percent of water. It shall comply with the microbiological standard prescribed in these regulations.

#### **04.2.2.6 Vegetable (including Mushrooms and Fungi, Roots and Tubers, Pulses and Legumes, and Aloe vera), Seaweed, and Nut and Seed pulps and Preparations (e.g. Vegetable Desserts and Sauces, Candied Vegetables) other than Food Category 04.2.2.5**

(Vegetable pastes and pulps are prepared as described for vegetable purees (04.2.2.5.) however, pastes and pulps have a higher amount of solids, and are usually used as components of other foods (e.g., sauces). examples include: potato pulp, horseradish pulp, aloe extract, salsa (e.g., chopped tomato, onion, peppers, spices and herbs), sweet red bean paste, sweet coffee bean paste (filling), tomato paste, tomato pulp, tomato sauce, crystallized ginger, and bean-based vegetable dessert, sweets (vegetable based):-gajar halwa/gajrela/carrot halwa, lauki halwa, coconut based sweets like coconut barfee, kaju based sweets. This category also includes gond (edible vegetable gums like arabic, asian, african, karaya, guar, tragacanth, xanthan, pectin, carrageenan, if consumed as food).

#### **(i) Sauces and sauce like products**

**(a) Sauce** shall be the product derived from any suitable kind and variety of fruit and vegetable which are wholesome and shall be practically free from insect or fungal attack or blemish affecting the quality of the

fruit or vegetable. The only substances that may be added are fruit, vegetable, their pulp, juice, dried fruit, sugar, spices, salt, vinegar, acetic acid, citric acid, malic acid, onion, garlic, flavoring material and permitted preservatives and permitted food colors. It shall be free from added starches whereas spice extracts in the form of Oleoresins or Aquaresins may be allowed in the sauce in conformity with the GMPs. The names of the fruits or vegetables used shall be mentioned on the product label.

**(b) “Spices based sauce”** like chillies sauce, BBQ sauce, shall be the product derived from any suitable variety of spices or condiments, singly or in combination.

**(c) “Emulsified sauces and dips”** means an emulsified semi-solid food prepared from edible vegetable oil (minimum 30 percent - regular, minimum 22.5 percent - reduced fat, minimum 15 percent - light, maximum 0.5 percent - fat free), whole egg or egg yolk, vinegar or citric fruit juice or both, permitted acidifying agents, herbs or fruits or vegetables or dairy products or spices (except saffron or turmeric) or natural flavoring (provided it does not impart to the sauce a coloring simulating the color imparted by egg yolk) or their combination. Optional ingredients that may also be used are salt, nutritive carbohydrate sweeteners, monosodium glutamate, stabilizers and thickeners, preservatives, permitted colors and flavors, EDTA as sequestrant at a level not exceeding 75 ppm.

**(d) Non-emulsified Sauces (e.g. Cheese Sauce, Cream Sauce, Brown Gravy)**

Tomato relish, chilli sauce, green chilli sauce, imli sauce, chilli garlic sauce or any other expression conveying the meaning that the product so designated is a form of a sauce, means the product derived from sound, fresh vegetables, fruits or plant parts, free from insect or fungal attack, with or without sugar, salt, vinegar, acetic acid, onions, spices or condiments, garlic, citric acid, ascorbic acid, and permitted preservatives and shall also be free from added coloring matter and added starches whereas spice extracts in the form of Oleoresins or Aquaresins may be allowed in the sauce in conformity with the GMPs. The product shall show no sign of fermentation when incubated at 37°C for seven days and the mould count shall not exceed 50 percent of the total field examined. It shall conform to the following standard:

(i) Total soluble solids	Not less than 25 percent
(ii) Acidity (as acetic acid)	Not less than 1.2 percent

Chilli garlic sauces shall contain not less than 4 percent of tomato. The pH range shall be from 3.5 to 4.2.

**(e) Culinary Pastes / Fruits and /Vegetable Sauces other than Tomato Sauce and Soya Sauce**

Culinary pastes / fruits and vegetable sauces other than tomato sauce and soya sauce means a culinary preparation used as an adjunct to food, prepared from edible portion of any suitable fruit/vegetable including, roots, tubers and rhizomes, their pulps/purees, dried fruits, singly or in combination by blending with salt, spices and condiments and other ingredient appropriate to the product. The product may contain permitted food additives except added starch.

The product shall conform to following requirements:

<b>Name of the Product</b>	<b>Total Soluble Solids</b>	<b>Acidity % (as Acetic Acid)</b>
Fruits / vegetable sauces	Not less than 15.0 percent	Not less than 1.2 percent
Culinary paste/ sauce	Not less than 8.0 percent	Not less than 1.0 percent
Ginger paste	Not less than 3.0 percent	Not less than 1.0 percent

## **(ii) Soyabean Sauce**

### **(a) Brewed soyabean sauce**

It is a seasoning product for edible purposes prepared from fermentation of soyabean and/ or defatted soyabean, *Aspergillus oryzae* and/or *Aspergillus sojae* and grain/ flour (wheat, rice, maize or tapioca) in a solution of brine (edible salt/ sodium chloride). It may contain sweetening substances (such as sucrose, dextrose and liquid glucose) caramel (as coloring matter), molasses, permitted preservatives and permitted flavor enhancer. The sauce shall be pasteurized and/ or heat treated product made from the basic ingredients mentioned above. The water used as ingredient shall be potable water.

Product shall be free from any foreign matter, non-nutritive sweetening agent, added coloring matter except caramel and hydrolysed vegetable proteins. The product may contain food additives permitted in these regulations. Product (s) shall comply to requirements mentioned in table below:

<b>Parameters</b>	<b>Soy sauce</b>	<b>Dark soy sauce (Thick)</b>
Total solids, % w/w minimum	35	55
pH maximum	4.8	4.0-5.1
Salt (as sodium chloride), % w/v, minimum	10	10
Total nitrogen, % w/v, minimum	0.8	0.7
Halophilic yeast, count per ml	<100	<100
Specific gravity minimum	1.2	1.2

### **(b) Non brewed Soyabean sauce**

Shall be the product derived from any suitable variety of sound and wholesome soyabean, free from insect or fungal or any other blemish affecting the quality of soyabean. The only substances that may be added are spices, salt, sugar, vinegar, acetic acid, onion, garlic, wheat molasses and permitted preservatives. It shall not contain any other fruit or vegetable substance. It shall show no sign of fermentation when incubated at 28-30°C and 37°C for three days. It shall be free from starch and any added colouring matter except caramel.

- |                               |  |
|-------------------------------|--|
| (i) Total soluble solids      | Not less than 25 percent                       |
| (ii) Acidity (as Acetic acid) | Not less than 0.6 percent                      |
| (iii) Yeast and Mould count   | Not more than 100/mL or g                      |
| (iv) Bacterial count          | Not more than 10 <sup>5</sup> million per gram |

### **(iii) Tomato sauce or Tomato Ketchup or Tomato Catsup or Tomato Relish**

- (a) "Tomato sauce" or tomato ketchup or tomato catsup or tomato relish or any other expression conveying the meaning that the product so designated is a form of a tomato sauce, means the product derived from sound, fresh and fully ripe and red tomatoes free from insect or fungal attack,



with or without sugar, salt vinegar, acetic acid, onions, spices or condiments, garlic, citric acid, ascorbic acid and permitted preservatives, permitted food stabilizers except starch. It must be free from skins, seeds, stems and foreign starches. Whereas spice extracts in the form of oleoresins or aqua resin can be used in the product in conformity with the GMPs. The product shall show no sign of fermentation when incubated at 37°C for seven days and the Howard mould count shall not exceed 50 percent of the total field examined. It can have permitted food colors as per Codex standards. It shall conform to the following standard:

- |      |                          |                           |
|------|--------------------------|---------------------------|
| (i)  | Total soluble solids     | Not less than 25 percent  |
| (ii) | Acidity (as Acetic Acid) | Not less than 1.2 percent |

It shall be free from fruit or vegetables other than tomatoes and shall contain not less than 8 percent of tomato solids derived from tomatoes. It shall conform to the following requirements:

**Microbiological Requirements of Food Products given below: -**

Serial No	Products	Parameters	Limits
1	Tomato products a tomato juices and soups	(a) Yeast and Mould count	<100/mL
		(b) <i>Salmonella</i>	<100/mL or g
2	Tomato puree and paste	(a) Yeast and Mould count	<100/mL or g
3	Tomato ketchup and tomato sauce	(a) Yeast and Mould count	<100/mL or g
		(b) <i>Salmonella</i>	Absent
		(c) Total plate count	Not more than 10000/mL

**04.2.2.7 Fermented Vegetable (including Mushrooms and Fungi, Roots and Tubers, pulses and Legumes, and Aloe vera) and Seaweed products, Excluding fermented Soybean products of Food Category.**

Fermented vegetables are a type of pickled product, formed by the action of lactic acid bacteria, usually in the presence of salt. Traditional oriental fermented vegetable products are prepared by dipping in solution of potassium metabisulphite or similar compound, air-drying vegetables and exposing them to ambient temperatures so as to allow the microorganisms to flourish; the vegetables are then sealed in an anaerobic environment and salt (to generate lactic acid), spices and seasonings are added and may also contain permitted preservatives. Examples include: achar, pickled cabbage/carrot/ cauliflower, pickled cucumber, olives, pickled onions, mushrooms in oil, marinated artichoke hearts, piccalilli, lemon pickles, soybean sauce-pickled vegetables, vinegar-pickled vegetables, brine-pickled vegetables, pickled ginger, pickled garlic, and chilli pickles. Examples include: red pepper paste, fermented vegetable products, kimchi (fermented chinese cabbage and vegetable preparation), and sauerkraut (fermented cabbage).

**04.2.2.8 Fermented Fruit Products**

**Pickle**

Means the preparation made from sound, wholesome, clean, raw or sufficiently mature fruits or vegetables or a combination of both, free from insect damage or fungus attack, preserved either in salt, acid (vinegar), sugar or any combination of these three. The pickle may contain onion, garlic, sugar, jaggery, edible oils, spices, spice extract or oil or turmeric, pepper, chillies, fenugreek, mustard seed or powder, vegetable

ingredients, asafoetida, bengal gram, lime juice, lemon juice, green chilies, vinegar or acetic acid, citric acid, dry fruit including resins and fruit nuts.

**Combination on Pickles may be:**

(i) "Pickles in citrus juice or brine" the percentage of salt in covering liquid shall not be less than 10 percent when salt is used as major preserving agent. Then packed in citrus juice, acidity of the covering liquid shall be not less than 1.2 percent calculated as citric acid. Soluble calcium salt and permitted preservatives may be used in such type of pickles. Pickles shall be free from added salts of copper, alum and mineral acids.

(ii) "Pickles in oil" the fruit or vegetable in the final product shall be not less than 70 percent. The pickle shall be dipped with oil. The oil used shall be clear, clean and free from rancidity with a peroxidation value of 15% maximum of the milliequivalents of oxygen/ kg oil, and oil must not be less than 15 percent in total amount of the product. It shall be free from copper, alum, mineral acid or preservative. The acidity expressed as lactic acid shall not be more than 2.0 percent. It may contain rapeseed (rai), carom seeds (ajwain), fennel seeds (saunf), and black pepper (kali mirch) and like spices etc.

(iii) Pickles in vinegar: pickles in vinegar mean the preparation from sound, wholesome clean, raw or sufficiently matured fruits or vegetables, free from insect damage or fungus attacks, which have been cured in brine or dry salt or salted and dried stack with or without natural fermentation. It shall contain vinegar or acetic acid and the percentage of acid in the fluid portion shall not be less than 2 percent calculated as acetic acid. It may contain sugar, whole or ground or semi-ground spices, dried fruits, green and red chilies, ginger etc. Dry fruit, citric acid may also be added in such type of pickles. The drained weight of the product shall not be less than 70 percent. The pickles shall be free from copper, mineral acid, alum, added colouring matter or preservative. This standard applies to products, offered for direct consumption, including for catering purposes or for repacking if required. The products covered by this standard include, but are not limited to onions, garlic, mango, radish, ginger, royal plum, peppers, hearts of palm, cabbage, lettuce, lemons, baby corn (young corn), and green mustard (*Brassica juncea*ssp). It does not apply to the product when indicated as being intended for further processing. This standard does not cover pickled cucumbers, kimchi, table olives, sauerkraut, chutneys and relishes.

(a) For pickled fruits, in accordance with the guidelines on packing media for canned fruits (CAC/GL 51-2003).

(b) For pickled vegetables, in accordance with the following provisions

(i) Water, and if necessary salt or oil or acidic media such as vinegar

(ii) Packing media for pickled vegetables may contain ingredients subject to labelling requirements and may include, but is not limited to

(iii) Foodstuff with sweetening properties such as sugars (including syrups) as defined in the standard for sugars (Codex Standard 212-1999), honey as defined in the standard for honey (Codex Standard 12-1981) or juices and/or nectars as defined in the general standard for fruit juices and nectars (Codex Standard 247-2005) and;

(iv) Aromatic plants, spices or extracts thereof, seasoning (in accordance with the relevant Codex Standards for spices or culinary herbs);

(v) Vinegar

(vi) Oil (in accordance with the relevant Codex Standards for vegetable oils)

(vii) Tomato puree

- (viii) Malt extract
- (ix) Sauce (e.g., fish sauce)
- (x) Soy sauce
- (xi) Cereal grains
- (xii) Dried fruits
- (xiii) Nuts
- (xiv) Pulses
- (xv) Other ingredients as appropriate

### Food Additives

Acidity regulators, antifoaming agents, antioxidants, colours, firming agents, flavour enhancers, preservatives, sequestrants, and sweeteners used in accordance with tables (1) and (2) of the general standard of food additives in the food category in which the individual pickled fruit or vegetable fall into (i.e., one of the following categories: (04.1.2.3), (04.1.2.10), (04.2.2.3), and (04.2.2.7) or listed in table (3) of the general standard are acceptable for use in foods conforming to this standard.

### Contaminants

The products covered by this standard shall comply with the maximum levels of the general standard for contaminants and toxins in foods and feed (Codex Standard 193-1995). The products covered by this standard shall comply with the maximum residue limits for pesticides established by The Codex Alimentarius Commission.

### 04.2.2.9 Fruit Fillings for pastries

Includes the ready-to-eat products and mixes. Includes all type of fillings excluding purees. These fillings usually include whole fruit or fruit pieces, examples include: cherry pie filling and raisin filling for oatmeal cookies.

### Use of additives in fruits

Food Category Name	Food Additive or Group	INS No	Recommended Maximum Level
	Acesulfame Potassium	950	350 mg/kg
	Allura red AC	129	300 mg/kg
	Aspartame	951	1000 mg/kg
	Benzoates		1000 mg/kg
	Brilliant blue FCF	133	250 mg/kg
	Carotenoids		100 mg/kg
	Chlorophylls and Chlorophyllins, Copper Complexes		100 mg/kg
	Canthaxanthin	161	15 mg/kg
	Caramel iii - Ammonia Caramel	150 C	7500 mg/kg
	Caramel IV - sulfite ammonia caramel	150 D	7500 mg/kg
	Carnauba Wax	903	400 mg/kg

Fruit fillings for pastries	Beta-carotenes, Vegetable	160A (II)	100 mg/kg
	Ethylene Diamine Tetra Acetates		650 mg/kg
	Fast Green FCF	143	100 mg/kg
	Grape Skin Extract	163 (ii)	500 mg/kg
	Hydroxybenzoates, Para-		100 mg/kg
	Indigotine (indigo Carmine)	132	150 mg/kg
	Lauricarginate Ethyl Ester	243	200 mg/kg
	Neotame	961	100 mg/kg
	Phosphates		1,500 mg/kg
	Polysorbates		3,000 mg/kg
	Polyglycerol esters of fatty acids	475	2000 mg/kg
	Polyglycerol esters of nteresterifiedricinoleic acid	476	2000 mg/kg
	Ponceau 4R (cochineal Red A)	124	50 mg/kg
	Propylene glycol alginate	405	5000 mg/kg
	Propylene glycol esters of fatty acids	477	40,000 mg/kg
	Riboflavins		300 mg/kg
	Sorbates		1000 mg/kg
	Sorbitan esters of fatty acids		5000 mg/kg
	Stearoyl lactylates		2000 mg/kg
	Sulfites		100 mg/kg
	Steviol Glycosides	960	330 mg/kg
	Sucralose (trichlorogalactosucrose)	955	400 mg/kg
	Sunset yellow FCF	110	300 mg/kg
	Tartrates		10,000 mg/kg
	Tocopherols		150 mg/kg

Food Additive or Group	INS No	Maximum Level
Acesulfame Potassium	950	1,000 mg/kg
Acetic Acid, Glacial	260	GMP
Alginic Acid	400	GMP
Ascorbic Acid, L-	300	GMP
Aspartame	951	2,500 mg/kg
Benzoates		1,000 mg/kg
Brilliant Blue FCF	133	100 mg/kg
Carotenoids		100 mg/kg
Chlorophylls and chlorophyllins, copper complexes		100 mg/kg
Calcium 5'-ribonucleotides	634	100 mg/kg
Calcium Carbonate	509	GMP
Calcium Lactate	327	10,000 mg/kg
Caramel III - Ammonia Caramel	150 C	50,000 mg/kg
Caramel IV - sulfite ammonia caramel	150 D	50,000 mg/kg
Beta-carotenes, Vegetable	160A (II)	1,000 mg/kg
Carrageenan	407	GMP
Citric acid	330	GMP

Citric and fatty acid esters of glycerol	472 C	GMP
Dextrins, roasted starch	1400	GMP
Diacetyltartaric and fatty acid esters of glycerol	472 E	2,500 mg/kg
Disodium 5'-guanylate	627	GMP
Disodium 5'-inosinate	631	GMP
Disodium 5'-ribonucleotides	635	GMP
Ethylene diamine tetra acetates		250 mg/kg
Erythrosine	127	30 mg/kg
Fast green FCF	143	100 mg/kg
Fumaric acid	297	GMP
Glycerol	422	GMP
Grape skin extract	163 (II)	100 mg/kg
Guar Gum	412	GMP
Hydroxybenzoates, para-	412	300 mg/kg
Indigotine (indigo Carmine)	132	300 mg/kg
Lactic Acid, L-, D- And DL-	270	GMP
Lecithin	322	GMP
Magnesium Carbonate	504	5,000 mg/kg
Malic acid, dl-	296	GMP
Monosodium L-glutamate	621	GMP
Neotame	961	33 mg/kg
Phosphates	961	2,200 mg/kg
Pectins	440	GMP
Poly dimethylsiloxane	900 A	10 mg/kg
Ponceau 4R (cochineal Red A)	124	500 mg/kg
Potassium carbonate	501 (I)	GMP
Potassium chloride	508	GMP
Processed Eucheuma Seaweed (PES)	407 A	GMP
Pullulan		GMP
Riboflavins		500 mg/kg
Saccharins		200 mg/kg
Sorbates		1,000 mg/kg
Sulfites		500 mg/kg
Sodium DL-malate	350 (II)	GMP
Sodium Acetate	262 (I)	GMP
Sodium Ascorbate	301	GMP
Sodium Carbonate	500 (I)	GMP
Sodium Erythorbate (sodium Isoascorbate)	316	GMP
Sodium Fumarates	365	GMP
Sodium Gluconate	576	GMP
Sodium Lactate	325	GMP
Steviol Glycosides	960	200 mg/kg
Sucralose (trichlorogalactosucrose)	955	580 mg/kg
Sunset yellow FCF	110	200 mg/kg
Trisodium Citrate	331 (III)	GMP
Xanthan Gum	415	GMP

#### 04.2.2.10 Cooked or Fried Vegetables (including Mushrooms and Fungi, Roots and Tubers, Pulses and Legumes, and Aloe vera), and Seaweeds.

Vegetables that are steamed, boiled, baked, cooked or fried, with or without coating, with or without curry, for presentation to the consumer. Examples include: simmered beans, pre-fried potatoes, fried okra, and vegetables boiled down in soy sauce (tsukudani), ready to eat curries like paneer makhani, kadhahi paneer, palak paneer, baigan ka bharta, aloo tamatar, mixed vegetable, dal makhani, frozen curried vegetables /ready to eat vegetables; vegetable gravies, etc.

Food Additive or Group	INS No	Maximum Level
Aspartame	951	1,000 mg/kg
Benzoates		1,000 mg/kg
Chlorophylls and chlorophyllins, copper complexes		1,000 mg/kg
Caramel III - ammonia caramel	150 C	50,000 mg/kg
Caramel IV - sulfite ammonia caramel	150 D	50,000 mg/kg
Diacetyltartaric and fatty acid esters of glycerol	472 E	2,500 mg/kg
Ethylene diamine tetra acetates		250 mg/kg
Neotame	961	33 mg/kg
Phosphates		2,200 mg/kg
Saccharins		160 mg/kg
Sorbates		1,000 mg/kg
Steviol glycosides	960	40 mg/kg
Sucralose (Tri chloro galacto sucrose)	955	150 mg/kg

#### Annex: 4.0

#### Microbiological Limits of Fruits, Fruit Products and Processed Vegetables

Product	Total Plate Count	<i>Salmonella</i>	<i>Coliform</i>	<i>E.coli</i>	<i>Staph. aureus</i>	Yeast/Mold
Unit	CFUfu/g	CFU/ 25 g	CFU/g	CFU/g	CFU/g	CFU/g
<b>Dried fruits</b>	<b>&lt;40000</b>	Absent	<100	<10	<100	<500
<b>Jams/jellies/ marmalades</b>		Absent	<100	<10	<100	<500
<b>Preserved fruits</b>		Absent	<100	<10	<100	Absent
<b>Spreads</b>		Absent	<100	<10	<100	<500
<b>Murabbas</b>		Absent	<100	<10	<100	<500
<b>Pulp and puree</b>		Absent	<100	<10	<100	<500
<b>Baked/cooked fruits</b>		Absent	<100	<10	<100	<500
<b>Processed/dried vegetables</b>		Absent	<100	<10	<100	<500
<b>Canned vegetables</b>	<b>&lt;10</b>	Absent	Absent	Absent	Absent	Absent
<b>Sauces</b>		Absent	<100	<10	<100	<100

## CHAPTER 5

### 05.0 Confectionery and Sweets

#### 05.1. Cocoa Products and Chocolate Products including Imitations and Chocolate Substitutes:

Includes all cocoa and chocolate products, other confectionery products that may or may not contain cocoa, chewing gum, and decorations and icings, or foods produced solely with any combination of foods conforming to these sub-categories. For the use of additives in the confectionary and sweets, or the confectionary and sweet items, as per their particular product formulation shall contain the permissible level of the permissible ingredient observing the tolerance limit of hazardous components as per these regulations and if not found in these regulations standing standard of Codex Alimentarius Commission shall be consulted.

Additive	Maximum Level
Ascorbyl esters	500 mg/kg
Mineral oil	2000 mg/kg
Propyl gallate	200 mg/kg

##### 05.1.1. Cocoa Mixes (Powders) and Cocoa Mass/Cake:

Includes a variety of products that are used in the manufacturing of other chocolate products or in the preparation of cocoa-based beverages. Most cocoa products are obtained from;

1. Cocoa nib of cocoa beans that have been cleaned and freed from the shells.
2. Cocoa mass is obtained from the mechanical disintegration of the nib by an alkalization process that mellows the flavour.
3. Cocoa dust is the fraction of the cocoa bean produced as a product during winnowing and degerming.
4. Cocoa powder is produced by reducing the fat content of cocoa mass or liquor by pressing (including expeller pressing) and molding into a cocoa press cake.
5. The cocoa press cake is disintegrated and ground to cocoa powder
6. Cocoa liquor is a homogeneous flowing paste produced from the cocoa nib, which has been roasted, dried, disintegrated and milled.
7. Cocoa-sugar mixtures contain only cocoa powder and sugar.
8. Chocolate powder for beverages is made from cocoa liquor or cocoa powder and sugar to which flavouring (e.g. vanillin) may be added. Examples include: drinking chocolate powder; breakfast cocoa; cocoa dust (fines), nibs, mass, press cake; chocolate liquor; cocoa mixes (powders for preparing the hot beverage); cocoa-sugar mixture; and dry mixes for sugar-cocoa confectionery. Finished cocoa beverages and chocolate milk are included in category of beverages, and most finished chocolate products are included in this category.

Additive	Max Level
Acesulfame potassium	350 mg/kg
Ammonium salts of phosphatidic acid	10000 mg/kg
Aspartame	3000 mg/kg

Phosphates	1100 mg/kg
Polyglycerol esters of fatty acids	5000 mg/kg
Polyglycerol esters of interesterified ricinoleic acid	5000 mg/kg
Propylene glycol esters of fatty acids	5000 mg/kg
Saccharin	100 mg/kg
Sorbitan esters of fatty acids	2000 mg/kg
Sucralose (trichlorogalacto sucrose)	580 mg/kg
Sucrose esters of fatty acids	10000 mg/kg
Tartrates	5000 mg/kg

#### 05.1.2. Cocoa Mixes (Syrups):

Products that may be produced by adding a bacterial amylase to cocoa liquor. The enzyme prevents the syrup from thickening or setting by solubilizing and dextrinizing cocoa starch. Examples include: products such as chocolate syrup used to prepare chocolate milk or hot chocolate. Chocolate syrup differs from fudge sauce (a hot, thick, chocolate sauce that is usually served on ice-cream).

Additive	Max Level
Acesulfame potassium	350 mg/kg
Alitame	300 mg/kg
Aspartame	1000 mg/kg
Caramel iii - ammonia caramel	50000 mg/kg
Caramel iv - sulfite ammonia caramel	50000 mg/kg
Chlorophylls and chlorophyllins, copper complexes	6.4 mg/kg
Cyclamates	250 mg/kg
Neotame	33 mg/kg
Polysorbates	500 mg/kg
Saccharin	80 mg/kg
Sorbates	1000 mg/kg
Sucralose (trichlorogalactosucrose)	400 mg/kg
Tartrates	2000 mg/kg
Tocopherols	500 mg/kg

#### 05.1.3. Cocoa-based spreads, including fillings:

Products in which cocoa is mixed with other ingredients (usually fat-based) to prepare a spreadable paste that is used as a chocolate spread for bread or as a filling for fine bakery wares. Examples include: sugar,



palm oil, nuts, cocoa, SMP, whey, emulsifiers, cocoa butter, fillings for bonbons and chocolates, chocolate pie filling, and nut-chocolate based spreads for bread.

<b>Additive</b>	<b>Maximum Level</b>
Acesulfame potassium	1000 mg/kg
Alitame	300 mg/kg
Allura red AC	300 mg/kg
Aspartame	3000 mg/kg
Benzoates	1500 mg/kg
Brilliant blue FCF	100 mg/kg
Caramel iii - ammonia caramel	50000 mg/kg
Caramel iv - sulfite ammonia caramel	50000 mg/kg
Carotenes, beta-, vegetable	100 mg/kg
Carotenoids	100 mg/kg
Chlorophylls and chlorophyllins, copper complexes	6.4 mg/kg
Cyclamates	500 mg/kg
Ethylene diamine tetra acetates	50 mg/kg
Grape skin extract	200 mg/kg
Hydroxybenzoates, para	300 mg/kg
Lauric arginate ethyl ester	200 mg/kg
Neotame	100 mg/kg
Phosphates	880 mg/kg
Polysorbates	1000 mg/kg
Saccharin	200 mg/kg
Sorbates	1000 mg/kg
Sucralose (Tri chloro galacto sucrose)	400 mg/kg

#### **05.1.4. Cocoa and Chocolate Products**

Chocolate is produced from cocoa nibs, mass, press cake, powder, or liquor with or without addition of sugar, cocoa butter, aroma or flavouring substances, and optional ingredients (e.g. nuts). This category is for chocolate and confectionery that uses chocolate that meets the standard and may contain other ingredients, for example chocolate-covered nuts and fruit (e.g. raisins), examples include: bonbons, cocoa butter confectionery (composed of cocoa butter, milk solids and sugar), white chocolate, chocolate chips (e.g. for baking), milk chocolate, cream chocolate, sweet chocolate, bitter chocolate, enrobing chocolate, chocolate covered in a sugar-based “shell” or with coloured decorations, filled chocolate (chocolate with a

texturally distinct center and external coating, excluding flour confectionery and pastry products of categories under bakery and chocolate with added edible ingredients. This category does not include yoghurt, cereal, and honey-covered nuts.

#### **(a) Chocolate Confectionery**

Shall be any solid or semi-solid product complete in itself and suitable for direct consumption without further preparation or processing of, which the characteristic ingredient is chocolate or cocoa, with or without the addition of nuts or fruits and includes products made by encrusting sugar confectionery and other ingredients in chocolate but does not include chocolate, chocolate-coated filled or flavoured biscuits, and any type of ice cream. The chocolate portion of any chocolate confectionery shall comply with the standards laid down for chocolate in these regulations.

#### **(b) Chocolate**

Chocolate paste, confectioners' chocolate, chocolate coating or chocolate powder) shall be a preparation of cocoa paste or cocoa powder or cocoa, with or without the addition of cocoa fat, sugar, spices, milk solids, permitted emulsifier, and permitted flavouring agent. The addition of vegetable fats other than cocoa butter shall not exceed 5 % of the finished product chocolate shall contain, on a dry matter basis, not less than 35 % total solids, of which not less than 18 % shall be cocoa butter and not less than 14 % fat free cocoa solids.

**(c) Milk chocolate:** milk chocolate shall contain, on a dry matter basis, not less than 25% cocoa solids (including a minimum of 2.5% fat-free cocoa solids) and not less than 14% milk solids (including a minimum of 2.5% milk fat).

#### **05.1.5. Imitation Chocolate, Chocolate Substitute Products**

Includes chocolate-like products that may or may not be cocoa-based, but have similar organoleptic properties as chocolate, such as carob chips, and cocoa-based products that contain greater than 5% vegetable fat (other than cocoa butter). These chocolate-like products may contain additional optional ingredients and may include filled confectionery. Imitation chocolates shall be labelled as artificial chocolate and vegetable fat used shall follow the quality standards as specified in these regulations, examples include: compound chocolate, flavoured and coloured compound chocolate, compound chocolate coatings, and imitation chocolate covered nuts and fruit (e.g. raisins).

#### **05.2. Confectionery including Hard and Soft candy, Nougats, etc**

Includes all types of products that primarily contain sugar and their dietetic counterparts and may or may not contain cocoa. Includes hard candies, soft candy and nougats and marzipans.

##### **05.2.1. Hard Candy:**

Products made from water and sugar, glucose syrup or liquid glucose or corn syrup, permitted food colours and flavours that may or may not have a filling, their dietetic counterparts, and products that may or may not contain cocoa. Includes: pastilles and lozenges (rolled, shaped and filled sweetened candy). These types of products may be used as fillings for chocolate products.

#### **(a) Hard Boiled Candy**

Die-formed sweets, also known by the technical term of plastic sweets, are produced by cutting and forming a rope of boiled sugar in continuous rotary forming dieheads or with a chain-forming machine. Moisture level shall be less than 2 percent in hard candy.

### **(b) Deposited Hard Candies**

These sweets are very smooth surface and practically without entrapped air inclusions. They are made in a continuous process in which a mass of boiled sugar of relatively low viscosity is deposited at high temperature into teflon-lined metal moulds, equipped at the bottom with ejector pins to eject the candies from the moulds once they have been solidified after passage through a cooling tunnel. To prevent an uncontrolled inversion rate as well as discoloration, the following factors must be observed absolutely. Only buffered acid can be used mainly buffered lactic acid, moisture level shall be less than 3.5 percent in deposited candy.

#### **05.2.2. Soft Candy:**

Products include soft, chewy products such as caramels (containing sugar syrup, fats, colour and flavour) and their dietetic counterparts; products that may or may not contain cocoa and milk (e.g. toffees and chocolate- flavoured caramels); jelly-based candies (e.g. jelly beans, jellied fruit paste covered in sugar, made from gelatin, pectin, permitted food colour and flavour); and licorice (a herb) also included are halwa teheniaa and oriental specialties, such as sweet bean jelly and agar jelly. These types of products may also be used as fillings for chocolate products.

<b>Products</b>	<b>pH</b>	<b>% Anhydrous citric acid</b>
Drops	2.2	1.8
Pectin jellies	3.3	0.8-1.2
Fruit jellies	4.2	0.5

Sulphur dioxide content in soft candies 350 mg/kg (maximum)

#### **05.2.3. Nougats and Marzipans**

Nougats consist of roasted ground nuts, sugar and cocoa and their dietetic counterparts, that may be consumed as is, or may be used as a filling for chocolate products. Marzipan consists of almond paste and sugar and their dietetic counter parts, that may be shaped and coloured (food grade) for direct consumption, or may be used as a filling for chocolate products.

### **05.3. Chewing Gum and Bubble Gums**

Means a product prepared from chewing gum base, or bubble gum base, (natural or synthetic, nontoxic), cane sugar and liquid glucose (corn syrup). The following source of gum base may be used: babul, kikar (gum arabic), chiker (sapota), natural rubber latex, synthetic rubber latex, synthetic resin, glycerol ester of partially hydrogenated gum or wood resin, natural resin, polyvinyl acetate, gelatine (Halal), food grade (fish or from halal animals), calcium carbonate, magnesium carbonate, waxes (food grade), glycerol monostearate, sorbitol monostearate, permitted antioxidants, permitted food colours, sorbitol, agar agar (food grade), glycerine (Halal), phosphated starch, talc powder (food grade) chewing gum. It may also contain the following ingredients: malt, milk powder, chocolate, coffee, vitamins, minerals, proteins permitted food color, flavours and citric and malic acids etc. It shall be free from dirt, adulterants and harmful ingredients. It shall also conform to the following standards:

<b>Ingredients</b>	<b>Chewing Gum</b>	<b>Bubble Gum</b>
Moisture	Not more than 3.5 percent	Not more than 3.5 percent

Gum	Not more than 12.5 percent	Not more than 14 percent
Sulphated ash	Not more than 9.5 percent	Not more than 11.5 percent
Acid insoluble ash	Not more than 2 percent	Not more than 3.5 percent
Reducing sugar calculated as dextrose	Not more than 4.5 percent	Not more than 5.5 percent
Sucrose	Not more than 70 percent	Not more than 60 percent
Talc	Upto 2 percent	Upto 3.5 percent

#### 05.4. Decorations (e.g. for Fine Bakery Wares), Toppings (Non-Fruit) and Sweet Sauces:

Includes ready-to-eat icings and frostings for cakes, cookies, pies and bread and flour confectionery, as well as mixes for these products, also includes sugar and chocolate-based coatings for baked goods. Sweet sauces and toppings include butterscotch sauce for use, e.g. on ice cream. These sweet sauces are different than the syrups (e.g. maple, caramel, and flavoured syrups for fine bakery wares and ices) are included in category of bakery. Fruit-based toppings are included in fruits category.

Food Category	Maximum Level
Cocoa mixes (syrups)	250 mg/kg
Cocoa-based spreads, including fillings	500mg/kg
Cocoa and chocolate products	500 mg/kg
Imitation chocolate, chocolate substitute products	500 mg/kg
Hard and soft candy, nougats, etc.	500 mg/kg
Chewing gum	3000 mg/kg
Decorations (e.g. for fine bakery wares), toppings (non-fruit) and sweet sauces	500 mg/kg

#### 05.5 Lactose

Means the carbohydrate normally obtained from whey. It may be anhydrous or contain one molecule of water of crystallization or be a mixture of both forms. It shall conform to the following standards:

- |       |  |                            |
|-------|--|----------------------------|
| (i)   | Anhydrous lactose content (on dry basis) | Not less than 99.0 percent |
| (ii)  | Sulphated ash (on dry basis)             | Not more than 0.3 percent  |
| (iii) | Loss on drying (16 hours at 1200C)       | Not more than 6.0 percent  |
| (iv)  | pH (solution 10 percent) 4.5-7.0         | Not more than 6.0 percent  |

#### 05.6 Dextrose powder (Icing dextrose)

Means finely pulverized dextrose anhydrous or dextrose monohydrate or mixtures thereof, with or without the addition of an anti-caking agent. It shall conform to the following standards:

Food Category	Standards
Powdered dextrose made from dextrose anhydrous	Not less than 98 percent

Powdered dextrose made from dextrose monohydrate	Not less than 90 percent
Reducing sugar content (dextrose equivalent) (on dry basis)	Not less than 99.5 percent
Sulphated ash (on dry basis)	Not less than 0.25 percent

Powdered dextrose made from dextrose anhydrous or dextrose monohydrate or mixtures thereof the total solids content shall be proportional to the characteristics of the mixture.

## 05.7 Dextrose

Dextrose is a white or light cream granular powder, odourless and having a sweet taste. When heated with potassium cupritartrate solution it shall produce a copious precipitate of cuprous oxide. It shall conform to the following standards:

Sulphated ash	Not more than 0.1 percent on dry basis
Acidity 0.5 gm. dissolved in 50 mL. of freshly boiled and cooled water requires for neutralization.	Not more than 0.20 mL. of n/10 sodium hydroxide to phenolphthalein indicator
Glucose	Not less than 99.0 percent on dry basis. The product may contain permitted additives.

## 05.8 Golden Syrup

Golden syrup means the syrup obtained by inversion of sugar. It shall be golden yellow in colour, pleasant in taste and free from any crystallization. It shall conform to the following standards:

(i)Moisture	Not more than 25.0 percent by weight
(ii)Total ash	Not more than 25.0 percent by weight
(iii)Total sugar as invert sugar	Not more than 72.0 percent by weight

The product may contain permitted food additives. Sodium bicarbonate, if used, for clarification purposes, shall be of food grade quality.

## 05.9 Dried Glucose Syrup

Dried glucose syrup means the material in the form of coarse or fine, white to creamish white powder, sweet taste, bland in flavour and somewhat hygroscopic. It shall be free from fermentation, evidence of mould growth, dirt or other extraneous matter or added sweetening or flavouring agent. It shall also not contain any added natural or coal tar food colour. It shall conform to the following standards:

(i) Total solid contents	Not less than 93.0 percent
(ii) Weight or reducing sugar content	Not less than 20.0 percent
(iii) Weight of sulphated ash	Not more than 1.0 percent

The Product May Contain Permitted Food Additives.

Whether sold as hard boiled sugar confectionery or pan goods confectionery or toffee or milk toffee, modified toffee or lacto-bon-bon or by any other name shall mean a processed composite food article made

from sugar with or without doctoring agents such as cream of tartar, by process of boiling whether panned or not. It may contain centre filling, or otherwise, which may be in the form of liquid, semi-solid or solids with or without coating of sugar or chocolate or both. It may also contain carbohydrate sugars, glucose syrup, milk and milk products, malt extracts, edible starches, edible oils and fats, fruit and fruit products, nut and nut products, chocolate and cocoa, vitamins and minerals, common salt, spices and condiments and their extracts, sodium bicarbonate, edible food grains, edible seeds, baking powder, essential volatile oils, edible gums, permitted food additives. It shall not contain artificial sweeteners. It may contain permitted food colors and flavours and emulsifier of halal origin. It shall conform to the following standards:

Sulphated ash on salt free basis

Not more than 1.5 percent

Provided that in case of sugar boiled confectionery where spices are used as centre filling, the sulphated ash shall not be more than 3 per cent by weight and ash insoluble in hydrochloric acid shall not be more than 0.2 percent. Where the sugar boiled confectionery is sold under the name of milk toffee, and butter toffee, it shall conform to the following additional requirements as shown against each

#### (1) Milk Toffee

(i) Total protein (N x 6.25) shall not be less than 3 percent by weight on dry basis

(ii) Milk fat content shall not be less than 4 percent by weight on dry basis

#### (2) Butter toffee

Butter fat content shall not be less than 4 percent by weight on dry basis. It may contain sulphur dioxide in concentration not exceeding 350 parts per million.

### 05.11 Dried Ice Cream Mix/ Dried Frozen Dessert/ Confection

Means the product in a powder form which on addition of prescribed amount of water shall give a product conforming to the requirements of the respective products, namely - ice cream, medium fat ice-cream, low fat ice-cream as prescribed under the regulations and frozen confection, medium fat frozen confection and low fat frozen confection as prescribed under the regulations except the requirement of weight /volume for both the products. The moisture content of the product shall not be more than 4.0 percent. It may contain permitted food additives. It shall conform to the prescribed requirements.

#### Prescribed Composition Requirements.

Requirement	Frozen dessert / Frozen confection	Medium fat frozen dessert/ Frozen confection	Low fat frozen dessert/Frozen confection
Total solid	Not <36.0 %	Not <30.0 %	Not <26.0 %
Wt/vol (gms/l)	Not < 525	Not <475	Not <475%
Total fat	Not <10.0 %	Not <5.0 %	Not >2.5 %
Total protein (N×6.25)	Not <3.5 %	Not <3.6. %	Not <2.5 %

**Note** In case where chocolate, cake or similar food coating, base or layer forms a separate part of the product only the frozen dessert/ confection portion shall conform to the requirements given above. The type of frozen confection shall be clearly indicated on the label otherwise, standards of frozen dessert/frozen

confection shall apply and every package of frozen dessert / frozen confection shall bear proper label declaration as per regulations including trans-fat % per serving bases.

### **05.12 Fruit Bar/Fruit Leather**

Means the product prepared by blending pulp/puree from sound ripe fruit, fresh or previously preserved, nutritive sweeteners, butter or other edible vegetable fat or milk solids and other ingredients appropriate to the product & dehydrated to form sheet which can be cut to desired shape or size. The product may contain permitted food additives. The product shall conform to the microbiological requirements. The product shall comply with the following requirements.

(i)	Moisture	Not more than 20.0 %
(ii)	Total soluble solids (m/m)	Not more than 75%
(iii)	Fruit content (m/m)	Not more than 25.0 %

### **05.13 Lozenges**

Means confections made mainly out of pulverised sugar, or icing sugar with binding materials such as edible gums, edible halal gelatine, liquid glucose or dextrin and generally made from cold mixing which does not require primary boiling or cooking of the ingredients. It may contain any of the following:

Carbohydrate sugars, milk and milk products, nuts and nuts products, malt syrup, edible starches, common salt, spices and condiments and their extracts, permitted food additives, lubricants (food grade). It shall not contain any artificial sweetener. It shall also conform to the following standards:

(i)	Sucrose content	Not less than 85%
(ii)	Ash sulphated (salt free basis)	Not more than 1.7%
(iii)	Ash insoluble in hydrochloric acid	Not more than 0.2%

### **05.14 Drops**

These sweets are made by passing a sheet pre-sized boiled sugar (glucose, acid) through two horizontally arranged rollers; with engraved cavities corresponding to the roller gap is compacted during the passage through the two rollers and adopts the shape of the cavities. The complete article is formed by placing the two halves accurately on the top of each other.

### **05.15 Balled Sweets**

Balled sweets are round or spherical in shape and are made by passing a calibrated rope of sugar through three rollers, shaped according to the desired sweet profile which by progressively approaching each other cut and shape the rope of sugar into a sweet which is also called rotary shape (glucose, acid color and flavor).

### **05.16 Lollipops:**

Basically, three types of lollipops can be distinguished

#### **(i) Flat lollipops**

(a) The forming techniques can be applied

(b) Depositing process by using special moulds

(c) Moulding stamping techniques including the following steps cutting of a well-tempered sugar rope free fall of the cut pieces into a mould and stamping the cut pieces in a rotating disc

(d) Moulding / stamping process

### (ii) Ball lollipop

They are mainly produced by applying the roto plast forming technique with flap cutters. The filled or unfilled sugar rope is taken over by a set of sizing rollers and fed into the forming die. In the forming die the sugar rope is cut by flaps and then formed by pressing plungers. Flaps and plungers are moved by cans. The sugar pieces in the forming dies receive their sticks form an automatic stick-feeder.

### (iii) Whistle Lollipop

They are produced with a specially designed roto-plast forming die-hard.

## 05.17 Indigenous Sugar Based Products

The local/indigenous products made from sugar or 'gur' or glucose/syrup, like 'tageri', 'makhana', 'gachak', 'revari', 'marunda' etc.

- (i) These must contain only food grade colors, flavors (if applicable)
- (ii) Should be free from health hazards like toxins, insect infestation and fungal/microbial contamination
- (iii) Should be properly packed and labelled

### Note

All the confectionary and sweets items as per their particular product formulations shall contain the permissible levels of the permissible ingredients observing the tolerance limits of the hazardous components as prescribed in these regulations and if not found in these regulations, standing Codex Alimentarius Standards shall be consulted.

### Annex 5.1:

#### Microbiological Limits of Confectionery Products

Product	Total plate Count	<i>Staph. aureus</i> (/g)	Coliform (/g)	<i>Salmonella</i> (/25g)	Yeast/Mold (CFU/g)
Cocoa powder	<50000	<100	<10	Absent	<100
Chocolate products	<50000	<100	Absent	Absent	<100
Candies, chewing gums, toffees etc	<50000	<100	Absent	Absent	<100
Miscellaneous	<50000	<100	Absent	Absent	<100



## CHAPTER 6

### 6.0 Cereals and Cereal Products, Derived from Cereal Grains, from Roots and Tubers, Pulses, Legumes and Pith or Soft core of Palm tree, Excluding Bakery Wares of Food Category

#### 06.1 Whole, Broken, or Flaked Grain, Including Rice

**06.1.1 Food grains** shall include wheat, rice, barley, oats, maize, jawar, bajara, gram and pulses. Food grains for human consumption shall be clean, dry and free from moulds and insect damage, abnormal smell, discoloration and admixture with deleterious and toxic material. Food grains shall conform to the following standards.

**(i) Colour:** The grain as far as possible, shall have its normal colour but mere discolouration shall not make it unfit if repellent smell or taste have not developed.

**(ii) Discolored seed:** Not more than 6 percent

**(iii) Smell:** The grains must have normal smell. Persistent bad smell in food grains shall be indicative of unhealthy deterioration of grain and it shall be considered to be injurious to health.

**(iv) Taste:** Any taste other than the characteristic taste of food grains shall be deemed to render the food grains injurious to health and must be discouraged.

**(v) Foreign Matter:** Not more than 2 percent out of which inorganic matter and organic matter shall not exceed 0.5 percent and 1.5 percent respectively.

**(vi) Impurities of Animal Origin (Filth, including Dead Insects):** Not more than 0.1 percent.

**(vii) Poisonous and Noxious Seed:** The grains shall be free from the poisonous or noxious seeds which represent a hazard to human health. These include datura species (common thorn apple or jimson weed), akra (vicia species), corn cockle (*Agrostemma githago* L.) and castor bean (*Ricinus communis* L.)

**(viii) Foreign Food Grains:** Grains, other than the one which is being sold, shall be deemed to be foreign food grains, so far as that particular food grains is concerned, and shall not exceed 5 percent by weight.

**(ix) Damaged Grains:** Grains which are damaged, touched or mouldy, or shrivelled shall not exceed a total of 5 percent of which mouldy grains, after superficial cleaning, shall not be more than 1.5 percent.

**(x) Insect Damaged Grains:** Shall not exceed the limit of 2 percent. Wheat grain shall be separately specified.

**(xi) Moisture content:** The moisture content at any time irrespective of time or any season shall not exceed 12 percent or otherwise indicated in the relevant session.

**(xii) Sound Grains:** Notwithstanding the permissible limit stated in foreign matter the percentage of normal and sound grains shall in no case be lower than 85 percent of the total grain inclusive of the percentage under "foreign food grains".

**Note** Particular specifications may be seen in the relevant section

#### **(xiii) Contaminants**

(i)	Uric acid	Not more than 100 mg/kg
(ii)	Mycotoxin including aflatoxin	Not more than 20 µg/kg

## Explanation

### (xiv) Foreign matter

Means any extraneous matter other than food grains, comprising of

(a) Inorganic matter consisting of metallic pieces, sand gravel, dirt, pebbles, stones, lumps of earth, clay and mud, animal filth and in the case of rice, kernels or pieces of kernels, if any, having mud sticking on the surface of the rice,

(b) Organic matter consisting of husk, straws, seeds and other inedible grains and also paddy in the case of rice, and

(c) Poisonous/ toxic / noxious and / or harmful seeds means any seeds which if present may have effect on health, organoleptic properties or technological performances such as datura (*Datura stramonium* Linn.), corn cockle (*Agrostemma githago*, *Machailalilium remulenum* L.) and akra (*Vicia* species).

### (xv) Damaged grains

Means kernels or pieces of kernels that are sprouted or internally damaged as result of heat, microbe, moisture or weather, viz. ergot affected grain and kernal bunt grains.

(d) "insect damaged grains" means food grains that are partially or wholly bored by insects.

(e) "Foreign food grains" means any edible grains (including oil seeds) other than the one, which is under consideration.

#### 06.1.1.1 Wheat

Wheat means the dried mature grains of *Triticum aestivum* Linn. It shall be sweet, clean and wholesome. It shall conform to the standards of food grains including the following standards

**(a ) Insect Damaged Grains:** Shall not exceed the limit of 1.5 percent

**(b) Sound grains:** The percentage of normal and sound grains shall in no case be lower than 93.5 percent of the total food grains inclusive of the percentage under "foreign food grains".

(i)	Foreign matter	Not more than 1.5 percent
	(a) Organic matter	Not more than 1.5 percent
	(b) Inorganic matter	Not more than 0.1 percent
(ii)	Poisonous seeds	Shall not contain any poisonous substances
(iii)	Kernels affected with ergot	Not more than 0.05 percent
(iv)	Other food grains	Not more than 3.0 percent
(v)	Damaged grains	Not more than 5.0 percent
(vi)	Shriveled grains	Not more than 3.0 percent

#### 06.1.1.2 Maize

Means the dried mature grains of *Zea mays*, shall be sound, dry sweet, hard, clean and wholesome. It shall conform to the standard of food grains including the following standards.

(i)	Moisture	Not more than 13 percent
(ii)	Broken kernels	Not more than 5 percent
(iii)	Foreign food grains	Not more than 2 percent
(iv)	Foreign matter	Not more than 2 percent (Shall not contain any poisonous seeds)
	(a) Organic matter	Not more than 1.5 percent
	(b) Inorganic matter	Not more than 3.0 percent

Provided that the total of foreign matter, other edible grains and damaged grains shall not exceed 9.0 percent.

#### 06.1.1.3 Jawar (Sorghum) and Bajra (Millets)

Jawar and bajra shall be the dried mature grains of *Sorghum vulgare* also called *Sorghum bicolor* and *Pennisetum typhoides* respectively. The grains shall be sweet, hard, clean and wholesome. It shall conform to the standard of food grains including the following standards:

(i)	Moisture	Not more than 16%
(ii)	Foreign matter	Not more than 2.0 percent
	(shall not contain any poisonous seeds)	
	(a) Organic matter	Not more than 1.5 percent
	(b) Inorganic matter	Not more than 0.5 %
(iii)	Foreign food grains	Not more than 3.0 percent
(iv)	Damaged grains	Not more than 5.0 percent out of which ergot affected grains shall not exceed 0.05 percent.

Provided that the total of foreign matter, other edible grains and damaged grains shall not exceed 8.0 percent by weight.

#### 06.1.1.4 Rice

Means the mature kernels or pieces of kernels of *Oryza sativa* obtained from paddy as raw or parboiled. It shall be dry, sweet, clean, wholesome and free from poisonous substance. It shall conform to the standard of food grains including the following standards:

(i)	Moisture	Not more than 13 percent
(ii)	Foreign matter	Not more than 1.5 percent
(iii)	By weight out of which inorganic matter	Shall not exceed 0.1 percent
(iv)	Foreign Food grains	Not more than 3.0 percent
(v)	Broken grains	Not more than 4.0 percent
(vi)	Damaged/shriveled grains	Not more than 0.5 percent
(vii)	Chalky grains	Not more than 5 percent
(viii)	Paddy grains	Not more than 0.1 percent
(ix)	Undermilled/red kernels	Not more than 2 percent
(x)	Weevilled grains	Not more than 1.5 percent

Chalky kernels are whole or broken kernels except for glutinous rice, of which at least three quarters of the surface has an opaque and floury appearance.

Red kernels are whole or broken kernels which are decoloured pericarp covering more than one quarter of their surface provided that the total of foreign matter, other food grains and damaged grains shall not exceed 6 percent by weight

#### **06.1.1.5 Masur whole**

Masur whole shall consist of lentil (*lens culinaris medik.* or *lens esculenta moench*). It shall be clean, dry, sound, wholesome and sweet. It shall conform to the standard of food grains including the following standards:

(i)	Moisture	Not more than 12%
(ii)	Foreign matter	Not more than 2 percent out of which inorganic and impurities of animal origin shall not exceed 0.5 and 0.10 percent
(iii)	Foreign food grains	Not more than 3.0 percent
(iv)	Damagaed/weevilled grain	Not more than 6.0 percent

Provided that the total of foreign matter, other foreign food grains and damaged grains shall not exceed 9 percent

#### **06.1.1.7 Moong Whole**

Moong whole shall consist of seeds of green gram (*Phaseolusaureusroxb.* *Phaseolusradiatus l.*). It shall be clean, dry, sound, wholesome and sweet, and free from admixture of unwholesome substances. It shall conform to the standard of food grains including the following standards:

(i)	Foreign matter	Not more than 2 percent out of which inorganic and impurities of animal origin shall not exceed 0.5 and 0.10 percent
(ii)	Foreign food grains	Not more than 3.0 percent
(iii)	Damaged/weevilled grain	Not more than 6.0 percent

Provided that the total of foreign matter, other foreign food grains and damaged grains shall not exceed 9.0 percent.

#### **06.1.1.8 Chana Whole**

Chana whole shall be the dried grains of gram (*Cicer arietinum L*). It shall be clean, dry, sound, wholesome, sweet, and free from unwholesome, substances. It shall conform to the standard of food grains including the following standards. Any coloring on pulses and grams is strictly prohibited.

(i)	Foreign matter	Not more than 2 percent out of which inorganic and impurities of animal origin shall not exceed 0.5 and 0.10 percent
(ii)	Foreign food grains	Not more than 3.0 percent
(iii)	Damaged/weevilled grain	Not more than 6.0 percent

#### **06.1.2 Split pulse**

Split pulses shall consist of split grains/seeds of specific pulses.

#### 06.1.2.1 Dal Arhar

Dal arhar shall consist of dehusked and split seeds of red gram (*Cajanuscajan l. millsp*). It shall be clean, dry, sound, wholesome, sweet, and free from admixture of unwholesome substances. It shall conform to the standard of food grains including the following standards:

- |                                |  |
|--------------------------------|--|
| (i) Foreign matter             | Not more than 2.0 percent out of which inorganic matter shall not exceed 0.5 percent |
| (ii) Foreign food grains       | Not more than 0.5 percent  |
| (iii) Damaged/weevilled grains | Not more than 4.0 percent  |

Provided that the total of foreign matter, other foreign food grains and damaged grains shall not exceed 5.0 percent.

#### 06.1.2.2 Dal Moong

Dal moong shall consist split seeds of green grams (*Phaseolus aureusroxb. Phaseolusradiatus l.*). It shall be clean, dry, sound, wholesome, sweet, and free from admixture of unwholesome substances. It shall conform to the standard of food grains including the following standards:

- |                                |   |
|--------------------------------|---|
| (i) Foreign matter             | Not more than 2.0 percent out of which inorganic matter shall not exceed 0.5 percent. |
| (ii) Foreign food grains       | Not more than 4 percent   |
| (iii) Damaged/weevilled grains | Not more than 3.0 percent   |

Provided that the total of foreign matter, other foreign food grains and damaged grains shall not exceed 8 percent.

#### 06.1.2.3 Dal Chana

Dal chana shall consist of split, dehusked seeds of green gram (*Cicer arietinum l.*). It shall be clean, dry, sound, wholesome, sweet, and free from admixture of unwholesome substances. It shall conform to the standard of food grains including the following standards.

- |                                |   |
|--------------------------------|---|
| (i) Foreign matter             | Not more than 2.0 percent out of which inorganic matter shall not exceed 0.5 percent. |
| (ii) Foreign food grains       | Not more than 2.0 percent   |
| (iii) Damaged/weevilled grains | Not more than 4.0 percent   |

Provided that the total of foreign matter, other foreign food grains and damaged grains shall not exceed 6 percent.

#### 06.1.2.4 Split Pulse (Dal) Masur

Dal masur shall consist of dehusked whole and split seeds of the lentil (*Lens esculentamoench or lens culinarismedik. or Ervumlensl*). It shall be clean, dry, sound, wholesome, sweet, and free from admixture of unwholesome substances. It shall conform to the standard of food grains including the following standards:

- |                          |   |
|--------------------------|---|
| (i) Foreign matter       | Not more than 2.0 percent out of which inorganic matter shall not exceed 0.5 percent. |
| (ii) Foreign food grains | Not more than 2.0 percent   |

- |                                |                           |
|--------------------------------|---------------------------|
| (iii) Damaged/weevilled grains | Not more than 3.0 percent |
|--------------------------------|---------------------------|

Provided that the total of foreign matter, other foreign food grains and damaged grains shall not exceed 7 percent.

#### 06.1.2.5 Oat

Oats are defined as the grains of *Avena saliva* and *Avena byzantina*. To the extent possible in good manufacturing practice, the cleaned product shall be free from objectionable matter. Oats shall conform to the following standards:

Moisture	Not more than 14%
Organic extraneous matter	Not more than 1.5%
Inorganic extraneous matter	Not more than 0.5%

#### 06.1.3 Any Other Foodgrains

Not specified above shall conform to the following standards, namely Provided that total of foreign matter, other edible grains and damaged grains shall not exceed 9 percent by weight.

### 06.2 Flours and Starches (including soybean powder)

#### 06.2.1 Flours

It shall be mandatory to fortify wheat flours/maida and atta with all of the following fortificants and the grace period in this regard is 03 months from the date of notification of Punjab Pure Food Regulations, 2017.

(i)	Iron	Not less than 15ppm in the form of NaFeEDTA
(ii)	Zinc	Not less than 30 ppm in the form of zinc oxide
(iii)	Vitamin B12	Not less than 0.008 ppm
(iv)	Folic acid	Not less than 1 ppm

##### 06.2.1.1 Whole Wheat Flour (atta/chakki atta)

Means the coarse product obtained by milling or grinding sound and clean wheat and sieving it. It shall be free from grit, rodent hair and excretes. It shall conform the following standards:

(i)	Ash	Not more than 1.5 percent
(ii)	Ash insoluble in HCl	Not more than 0.1 percent
(iii)	Acidity	Not more than 0.115 percent of acidity

Expressed as sulphuric acid and determined by the alcoholic extraction process.

(i)	Moisture	Not more than 14 percent (determined by heating at 130-133°C for 2 hours).
(ii)	gluten (dry weight basis)	Not less than 8 percent
(iii)	Crude fiber	From 2.1 to 2.5 percent

##### 06.2.1.2 Fortified Wheat Flour

Means the product obtained by adding following fortificants in wheat flour / atta with addition of one or more fortificants. Rest of the specifications are same as for 06.2.1.1 "wheat flour (atta)". Fortification should conform to the following standards:

- |       |                         |  |
|-------|-------------------------|--|
| (i)   | Iron                    | Not less than 15ppm in the form of NaFeEDTA    |
| (ii)  | Folic acid              | Not less than 1 ppm                            |
| (iii) | Zinc                    | Not less than 30 ppm in the form of zinc oxide |
| (iv)  | Vitamin B <sub>12</sub> | Not less than 0.008 ppm                        |

#### 06.2.1.3 Fortified Maida

Means the fine product made by milling or grinding cleaned wheat and bolting or dressing the resulting wheat meal with addition of one or more fortificants. The rest of the specifications are same as for 06.2.1.1 “maida”. Fortification should conform to the following standards:

- |       |                         |  |
|-------|-------------------------|--|
| (i)   | Iron                    | Not less than 15ppm in the form of NaFeEDTA    |
| (ii)  | Folic acid              | Not less than 1 ppm                            |
| (iii) | Zinc                    | Not less than 30 ppm in the form of zinc oxide |
| (iv)  | Vitamin B <sub>12</sub> | Not less than 0.008 ppm                        |

#### 06.2.1.4 Suji, Semolina

Means the food prepared by grinding and bolting cleaned wheat to such fineness that it passes through a No.20 sieve but not more than 3 percent passes through a No.100 sieve. It shall be free from grit and insect infestation, musty smell and off odour and from rodent excretes.

- |       |                      |  |
|-------|----------------------|--|
| (i)   | Moisture             | Not more than 12 percent               |
| (ii)  | Ash                  | Not more than 1.0 percent              |
| (iii) | Ash insoluble in HCl | Not more than 0.1 percent              |
| (iv)  | Acidity              | Not more than 0.115 percent of acidity |

Expressed as sulphuric acid and determined by the alcoholic extraction process.

- |                               |                                   |
|-------------------------------|-----------------------------------|
| (i) gluten (dry weight basis) | Not less than 7 percent of gluten |
|-------------------------------|-----------------------------------|

#### 06.2.1.5 Besan, vesan, gram flour

Means the product obtained by milling or grinding cleaned, dried dehusked desi chana (cicer arietinum) only and sieving it. It shall conform to the following standards:

- |       |                                  |  |
|-------|----------------------------------|--|
| (i)   | Moisture                         | Not more than 12 percent               |
| (ii)  | Ash                              | Not more than 3.0 percent              |
| (iii) | Acidity expressed as lactic acid | Not more than 0.115 percent of acidity |

#### 06.2.1.6 Rice Flour or Miscellaneous Edible Ground Flour

Shall be the product obtained by grinding, sound, cleaned, milled rice or miscellaneous edible grains. It shall conform to the following standards:

- |      |                    |                           |
|------|--------------------|---------------------------|
| (i)  | Moisture           | Not more than 12 percent  |
| (ii) | Ash (on dry basis) | Not more than 0.4 percent |

#### 06.2.1.7 Pearl Barley

Means the product obtained from sound and clean barley (Hordeum vulgare or Hordeum distichon). It shall be whitish in colour and shall be free from fermented, musty or other objectionable taste or odour, adulterants and insect and fungus infestation and rodent contamination. It shall not contain other food grains more than 1 percent by weight. Barley powder shall be the product obtained by grinding clean and

sound dehusked barley (*Hordeum vulgare* or *Hordeum distichon*) grains. Barley starches shall not be less than 98.0 percent by mass. Barley powder shall also conform to the following standards:

Not more than 0.10 percent

(i)	Moisture	Not more than 12.5 percent
(ii)	Total ash (on dry basis)	Not more than 1.0 percent
(iii)	Ash insoluble in HCl	Not more than 0.10 percent
(iv)	Alcoholic acidity as H <sub>2</sub> SO <sub>4</sub> (with 90 percent alcohol)	Not more than 0.10 percent
(v)	Protein (N x 6.25) (on dry basis)	Not less than 7.0 percent

#### 06.2.1.8 Whole Meal Barley Powder

Means the product obtained by grinding clean and sound dehusked barley (*Hordeum vulgare* or *Hordeum distichon*) grains. It shall conform to the following standards: Moisture  
Not more than 12.5 percent

(i)	Total ash (on dry basis)	Not more than 3.0 percent
(ii)	Ash insoluble in HCl	Not more than 0.50 percent
(iii)	Alcoholic acidity as H <sub>2</sub> SO <sub>4</sub> (with 90 percent alcohol on dry basis)	Not more than 0.17 percent

#### 06.2.1.9 Defatted Soy Flour

Means the product obtained from clean, sound healthy soybeans. It shall be in the form of coarse or fine powder or grits, white to creamy white in colour of uniform composition and free from rancid and objectionable odour, extraneous matter, insects, fungus, rodent hair and excreta. It shall be free from any added colour and flavour. It shall conform to the following standards:

(i)	Moisture	Not more than 9.0 percent by weight
(ii)	Total ash (on dry basis) weight on dry basis	Not more than 6 percent by
(iii)	Protein (Nx6.25)	Not less than 48 percent by weight on dry basis
(iv)	Fat	Not more than 1.5 percent weight on dry basis

#### 06.2.2 Starchy Foods

##### 06.2.2.1 Arrowroot

Means the separated and purified starch from the rhizomes of the plants known as marantaarundinacea or from *Curcuma angustifolia*. It shall be white and finely powdered and free from rancidity, adulterants, insect infestation, and rodent contamination and from fermented musty or any other objectionable odour. It shall not contain added sweetening agent, flavouring substance and colouring matter or any other foreign matter. It shall be free from dirt and other suspended and extraneous matter. It shall conform to the following standards:

(i)	Moisture	Not more than 12.0 percent
(ii)	Total ash (on dry basis)	Not more than 0.2 percent
(iii)	Alcoholic acidity as H <sub>2</sub> SO <sub>4</sub> 90 % alcohol)	Not more than 2.0 mL 0.1NaOH per 100g of dried starch (with



#### 06.2.2.2 Sago, Sagudana, Sabudana

Means the starch obtained from the pith of sago Palm-sagusrumphi or metroxylon sago. It shall be free from rancidity, adulterants, insect infestation, and rodent contamination and from fermented, musty or any other objectionable odour. It shall not contain added sweetening flavouring or colouring agent or any foreign matter. It shall have the characteristic appearance under the microscope. It shall conform to the following standards:

(i)	Moisture	Not more than 12.0 percent
(ii)	Total ash (on dry basis)	Not more than 0.2 percent
(iii)	Total protein	Not more than 0.2 percent
(iv)	Fat	Not more than 0.2 percent
(v)	Crude fibre	Not more than 0.2 percent
(vi)	Carbohydrates	Not less than 87 percent

Sago shall mean small hard globules or pearls made from either the starch of the sago palm or the tubers of tapioca (*Manihotutilissima*) and shall be free from any extraneous matter including natural colours.

#### 06.2.2.3 Corn flour (Maize Starch)

Means the starch obtained from maize (*Zea mays L.*). It shall contain no added colour, flavour or other chemicals. It shall be of such fineness that not less than 98 percent passes through a No.50 sieve and not less than 50 percent passed through a no.70 sieve wire cloth. It shall be free from dirt, insects, larvae and impurities or other extraneous matter. It shall conform to the following standards:

(i)	Moisture	Not more than 12.0 percent
(ii)	Total ash	Not more than 0.5 per cent (on dry weight basis)
(iii)	Ash insoluble in HCl	Not more than 0.1 percent (on dry weight basis)

#### 06.2.2.4 Corn Flakes

Means the product obtained from dehulled, degermed and cook corn (*Zea mays L.*) by flaking, partially drying and toasting. It shall be in the form of crisp flakes of reasonably uniform size and golden brown in colour. It shall be free from dirt, insects, larvae and impurities and any other extraneous matter. It shall conform to the following standards:

(i)	Moisture	Not more than 7.5 percent
(ii)	Total ash excluding salt	Not more than 1.0 percent (on dry basis)
(iii)	Ash insoluble in HCl	Not more than 0.1 (on dry basis)
(iv)	Alcoholic acidity	>2.0 mL 0.1N NaOH per 100g of dried substance (with 90 % alcohol)
(v)	Crude fibre (on dry basis)	Not less than 0.75 percent

#### Buck wheat

Buckwheat (*Fagopyrum esculentum*), also known as common buckwheat, Japanese buckwheat and silverhull buckwheat, is a plant cultivated for its grain-like seeds and as a cover crop. It shall conform to the following standards:

Moisture	14.0 % m/m max.
Organoleptic	Bright, clear appearance, natural smell and color

Total removable material	2.5% m/m max.
Dehulled	2.0 % m/m max.
Immature	1.5% m/m max.
Total damage	8.0% m/m max.
Cereal grains	2.5% m/m max.
Ergot	0.05% m/m max.
Excreta	0.01% m/m max.
Matter other than cereal grains	1.0% m/m max.
Sclerotinia	0.05% m/m max.
Stones	0.03% m/m max.
Total foreign material	3.0% m/m max.
Live insect	Nil

#### 06.2.2.5 Rolled Oats (Quick Cooking Oats)

Means the product made from sound hulled oats (*Avena sativa*). It shall be free from added colours, rancidity and flavouring agents. It shall be in the form of thin flakes of uniform size having a light cream colour. It shall be free from dirt, insects and insect fragments. It shall conform to the following standards:

(i)	Moisture	Not more than 10 percent
(ii)	Total ash	Not more than 2.0 percent on dry basis
(iii)	Ash insoluble in dilute	Not more than 0.1 percent on dry basis
(iv)	Nitrogen	Not less than 1.8 percent on dry basis
(v)	Crude fibre	Not more than 2.0 percent on dry
(vi)	Alcoholic acidity (with 90 percent Alcohol) N.NaOH	Shall be equivalent to not more than 8.0 ml. per 100 gm. of dried substance

#### 06.2.2.6 Custard Powder

Means the product obtained from maize (*Zea mays L.*) or sago/topioca with or without the addition of edible common salt, milk, any foodstuff and albuminous matter. It may contain permitted colours and flavours. It shall be free from any other foreign matter. It shall be the form of fine powder, free from rancidity, fermented and musty odour. It shall conform to the following standards:

(i)	Moisture	Not more than 12.0%
(ii)	Total ash excluding added common salt (on dry weight basis)	Not more than 0.5 percent
(iii)	Ash insoluble in dilute HCl	Not more than 0.1

### 6.3 Malt Products

#### 06.3.1 Malt

Means the grains of barley, or of any other cereal that has germinated and has been subsequently dried. The interior of the malt grains shall be white in colour and shall show no evidence of caramelisation. The

grain shall fracture readily between the teeth and sweet characteristics malty flavour shall be quickly developed. The malt shall be free from mouldy, broken and damaged grains and in all respect fit for human consumption. It shall be free from any foreign material. It shall conform to the following standards:

(i)	Moisture	Not more than 5 percent
(ii)	Cold water extract	Not more than 15 percent
(iii)	Diastatic power	Not less than 32° lintner

#### 06.3.2 “Bakers' Malt Extract or Commercial Malt Extract

Shall contain not less than 70 percent of solids derived wholly from malt. It shall possess the diastatic power prescribed for malt. There shall be written on the label of a package containing bakers' malt extract, that is devoid of enzymic activity, the word "non diastatic".

#### 06.3.3 Malt Based Foods (Malt Food)

Means the product obtained by mixing malt (wort or flour or malt extract) of any kind obtained by controlled germination of seeds (cereals and/or grain legumes), involving mainly steeping germination and kiln drying processes with other cereal and legume flour with or without whole milk or milk powder, flavouring agents, spices, emulsifying agents, eggs, egg powder, protein isolates, protein hydrolysates, edible common salt, liquid glucose, sodium or potassium bicarbonate minerals, amino acids and vitamins. It may contain added sugar and/or cocoa powder and processed in such a manner to secure partial or complete hydrolysis of starchy material in the form of powder or granules or flakes by drying or by dry mixing of the ingredients. The grains, legumes and their products used in preparation of malt shall be sound, uninfested and free from insect fragments, rat excreta, fungal infested grains or any other type of insect or fungal damage. It shall also conform to the following standards:

(i)	Moisture	Not more than 5 percent by weight
(ii)	Total protein (N×6.25)(on dry basis)	Not less than 7.0 percent by weight
(iii)	Total ash (on dry basis)	Not more than 5 percent by weight
(iv)	Acid insoluble ash	Not more than 0.1 percent
(v)	Total plate count	Not more than 50,000 per gram
(vi)	Coliform count	Not more than 10 per gram
(vii)	Yeast and mold count	Not more than 100 per gram
(viii)	<i>E.coli</i>	Absent in 10 gram
(ix)	<i>Salmonella</i>	Absent in 25 gram

#### 06.3.4 Malted Milk Powder

(1) Malted milk food shall be the dried product prepared from milk or dried milk or a combination of both, with or without edible vegetable fat or edible vegetable oil and the soluble solids of malt; and shall be free from rancidity.

(2) Malted milk food

(a) Shall contain the following

(i) Not less than 7.5 percent of milk fat or edible vegetable fat or edible vegetable oil or a combination of both; (dairy fat should not be less than 50 percent of the total fat) and

(ii) Soluble solids produced from wheat or other cereals by the enzymatic action of malt;

(b) May contain not more than 0.8 percent of soya bean lecithin; and

(3) Malted milk powder may contain permitted flavouring substance and permitted food conditioners.

#### 06.3.5 Malted Beverage/ Drink

Malted drink is prepared from malt extract, or any cereals extract, with, sugar, dextrose, invert sugar, or liquid glucose and natural sweeteners, either singly or in combination and with or without milk powders, cocoa powder, salt, flavors, vitamins, minerals and permitted additives. It shall contain total solids contents not less than 10%.

#### Annexure 6:

#### Microbiological Limits for Cereal and Cereal Based Products (Whole/Ground) including Flour, Soy Protein, Rice and Starch etc.

Sr. No	Parameters	Limits
1	Total plate count (per gram)	<50,000
2	Mold /CFU	<1000
3	Coliforms (per gram)	<100
4	<i>E.coli</i> (Per gram)	Absent
5	<i>Bacillus cereus</i> a and other spp (per gram)	<100
6	<i>Salmonella</i> (per 25 gm)	Absent
7	<i>Clostridium perfringense</i>	100

#### 06.3.6 Canned maize or corn sweet corm

Canned sweet corn is the product: (a) prepared from clean, sound kernels of sweet corn, conforming to the characteristics of *Zea mays L.*; (b) packed with a suitable liquid packing medium, which may be the creamy component from corn kernels, or with suitable nutritive sweeteners, seasoning ingredients, and other ingredients appropriate to the product, and (c) processed by heat, in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage. It shall conform to these standards as given below:

Pieces of green or red peppers or mixture of both, or other vegetables, not exceeding in total 15% m/m of the product. The product shall also be reasonably free from "off-variety" kernels, free from flavours or odours foreign to the product. Minimum container fill must be 90% of the water capacity of the container. The drained weight of Whole Kernel corn shall be not less than 61% of the whole contents of the container.

#### Contaminants:

Lead (Pb) Not more than 1 mg/kg

Tin (Sn) Not more than 250 mg/kg calculated as Sn

#### 06.4 Pasta and Noodles and Like Products (e.g. Rice Paper, Rice Vermicelli Soybean Pasta and Noodles)

##### 06.4.1 Pasta Products" (Macaroni, Spaghetti, Vermicelli, Noodles, and similar products whatever the name it is called)

Means the products obtained from wheat flour / suji or maida, with or without milk powder, various kinds of starch, edible fats and oils, eggs, common salt, or any other food stuffs, permitted flavouring and colouring agents, vitamins and minerals. It shall conform to the following standards:

(i)	Moisture	Not more than 12.5 percent
(ii)	Total ash	Not more than 1 percent
(iii)	Ash insoluble in dilute HCl (on dry basis)	Not more than 0.05 percent
(iv)	Nitrogen (on dry basis)	Not less than 1.7 percent

No pasta shall be labeled with the word “egg” or any word of similar meaning unless that pasta contains not less than 4 percent egg solids calculated on a dry basis.

#### **06.4.2 Instant Noodle**

Instant noodle is a product prepared from wheat flour and wheat products and/or rice flour and/or other flours and/or starches as the main ingredient, with or without the addition of water, milk powder, edible fats and oils, eggs, salt, food stuffs, permitted flavouring agents and permitted colouring matters, vitamins, minerals and permitted food additives. It may be treated by alkaline agents. It is characterized by the use of pre-gelatinization process and dehydration either by frying or by other methods. Instant noodle may be packed with noodle seasonings, or in the form of seasoned noodle and with or without noodle garnish(s) in separate pouches, or sprayed on noodle and ready for consumption after dehydration process. It shall conform to following standards:

(i)	Moisture	Maximum 8% for fried noodles Maximum 10% for non-fried noodles
(ii)	Acid value	Maximum of 2mg KOH/g oil (applicable only to fried noodles)

#### **Seasoning for Noodles**

Seasoning means the product obtained from mixing a combination of spices and herbs, fruits, vegetables, fats and oils, salt, sugar, milk and milk products, meat and meat products (Halal), oleoresins and aquaresins, any other permitted food stuff; permitted flavouring, colouring and food conditioners. It shall be free from any foreign material.

## Chapter 7

### 07.0. Bakery Wares

Includes categories for bread and ordinary bakery wares and for sweet, salty and savoury fine bakery wares. The additives shall be incorporated as standing Codex Alimentarius Standards.

#### 07.1. Bread and Ordinary Bakery Wares and Mixes

Includes all types of non-sweet bakery products and bread-derived products.

##### 07.1.1. Breads and Rolls

Includes fortified bread, rolls, buns, yeast-leavened breads and specialty breads. Moisture shall not be more than 40%. The pH shall range from 6.2 to 7.5 and samples shall be free from yeast and mould.

###### 07.1.1.1. Enriched / Fortified Bread, Rolls and Buns

Each of the foods enriched bread, enriched rolls and enriched buns shall conform to the definition and standard of identity and is subject to the requirements for labelling statement of ingredients prescribed for bread, rolls or buns except that:

(1) Each such food contains in each pound (450 grams), 1.8 milligrams of thiamine, 1.1 milligrams of riboflavin, 15 milligrams of niacin, and 12.5 milligrams of iron.

(2) Each such food may contain added calcium in such quantity that the total calcium content is 600 milligrams per pound (450 grams). If insufficient calcium is added to meet the 600-milligram level per pound of the finished food, no claim shall be made on the label for calcium as a nutrient except as a part of nutrition labelling.

(3) The requirements of paragraphs (1) and (2) of this clause will be deemed to have been met if reasonable averages of the vitamins and minerals, within the limits of good manufacturing practice, are present to ensure that the required levels of the vitamins and minerals are maintained throughout the expected shelf life of the food under customary conditions of distribution and storage.

###### 07.1.1.2. Yeast-leavened Breads and Specialty Breads

Includes all types of non-sweet bakery products and bread-derived products, examples include: white bread, rye bread, pumpernickel bread, raisin bread, whole wheat bread, pain courant francais, malt bread, whole wheat rolls, and milk rolls.

### Bread

Bread, white bread, bran bread, whole wheat bread, milky bread, multi grain bread, seed bread or multi cereal bread, bread-rolls, white rolls, bun, white bun and sheer mall are a food of any size or shape or form which is usually known as bread and consist of a dough made from flour and water with or without any ingredients, which has been fermented by yeast or otherwise leavened and subsequently baked or partially baked. The pH shall range from 6.2 to 7.5.

### Types of Bread

To make the products more palatable and with longer shelf life any of the ingredients listed below may be used singly or in combination at permissible limit by these regulations. The finished foods shall contain not less than 60 percent total solids. All ingredients listed below shall be hygienically clean and suitable for human consumption.

## **Optional Ingredients**

- (1) Shortening: edible oils and fats, margarine, ghee, butter or their blends.
- (2) Milk or other dairy products in such quantity as not to meet the requirements of milky bread.
- (3) Sugars and other nutritive carbohydrate sweeteners.
- (4) Enzyme active preparation: malt extract, malt flour, amylases, proteinases.
- (5) Non-wheat flour or non-wheat starches which may be wholly or partly dextrinized or dextrinized wheat flour or any combination. The quantity must not exceed 2 parts flour each 100 parts of wheat flour.
- (6) Soy flour: in the range of 0.5-1 percent (defatted soyflour and other types may be added subject to the condition that it must be declared on the labels). Soy flour may be included in the list of allergens.
- (7) Wheat gluten and wheat germ.
- (8) Sesame seeds, caraway seeds, cracked wheat, cracked or kibbled malted wheat.
- (9) Yeast stimulating products and calcium salts, if the quantity of such ingredients (with the exception of monocalcium phosphate and calcium propionate) is not more than 0.25 parts for each 100 parts of wheat flour.
- (10) Lecithin.
- (11) Ascorbic acid, potassium bromate, azodicarbonamide (maximum 45 ppm on flour weight basis), L-cysteine hcl (max.75ppm on flour weight basis) (halal), ammonium persulphate, potassium persulphate, monocalcium phosphate, chlorine dioxide, benzoyl peroxide (max. of 50 ppm on flour weight basis.).
- (12) Propionic acid or its calcium or potassium salts (upto 3000ppm on flour weight basis expressed as propionic acid).
- (13) Mono and di-glycerides of fatty acids (halal), lactic acid esters and citric acid esters of mono and diglycerides of fatty acids, mono and diacetyl tartaric acid esters of mono and di-glycerides of fatty acids, stearyl tartarate, sodium and calcium stearyl- 2- lactylates (upto 5000 ppm on bread weight basis) (Halal).

## **Bread**

Rolls, buns and sheer mall as defined and described by these regulations shall not contain any artificial colouring matter of any type. Artificial colouring shall not be used as such or as part of any ingredient added to these products (e.g. candied fruits used in buns shall not contain any artificial colouring matter). Moisture shall not be more than 40%.

## **Bran Bread**

The composition of bran bread requires that fiber content calculated by weight on the dry matter of the bread shall not be less than 0.6 percent and should be free from added color. Bran bread may contain all or any of the permitted ingredients set out in case if in the bread except that soy flour if present may not be more than five parts per hundred parts of flour. Proportion of bran shall be in the range of 18-20 percent of bread. Moisture shall not be more than 42 percent. The pH shall range from 6.2 to 7.5. L-cystien should be from halal source. The composition of whole wheat bread requires it to be made from whole wheat flour, which is the whole of the product derived from the milling of cleaned wheat, without the addition of any other flour, with yeast and water, and any of the following limited list of permitted ingredients: Salt, sugar,

edible oils and fats, enzyme active preparations, caraway seeds, cracked wheat and cracked or kibbled malted wheat, yeast stimulating preparation, acetic acid, vinegar, monocalcium phosphate, acid sodium pyrophosphate, lactic acid, potassium acid tartrate, and sodium diacetate, lecithin and any substance used as an excipient or diluent of these ingredients.

### **Milky Bread**

The composition of milk bread is that of white bread plus not less than ten (10%) percent of whole milk solids calculated by weight on the dry matter of the bread. Moisture shall not be more than 40 percent.

### **Skimmed Milk Bread**

The composition of skimmed milk bread is that of milk bread but with the substitution of skimmed milk solids for whole milk solids. Moisture shall not be more than 40 percent.

#### **07.1.2. Crackers, Excluding Sweet Crackers**

The term “cracker” refers to a thin, crisp wafer, usually of unsweetened dough. Flavoured crackers (e.g. cheese flavoured) that are consumed as snacks. Examples include: soda crackers, rye crisps, and matzohs.

**07.1.3. Other Ordinary Bakery Products (e.g. Bagels, Pita, Tortilla, English Muffins):** Includes all other ordinary bakery wares, such as cornbread and biscuits. The term “biscuit” in this category refers to a small cake of shortened bread, leavened with baking powder or baking soda. It does not refer to the British “biscuit,” which is a “cookie” or “sweet cracker”.

#### **07.1.4. Bread-type products, including Bread Stuffing and Bread Crumbs:**

Includes bread-based products such as croutons, bread stuffing and stuffing mixes, and prepared doughs (e.g. for biscuits).

##### **07.1.4.1 Pizza Dough**

High proportion of soft non-bread making wheat. If a thick pizza is desired a stronger flour would be used. Pizza base shall contain 12-14 percent protein, depending on the product.

#### **07.1.5. Steamed Breads and Buns:**

Oriental-style leavened wheat or rice products that are cooked in a steamer. Products may be made with or without filling. The products may include without filling, called steamed bread (mantou), and those with filling, called steamed buns (baozi or bao). Twisted rolls of various shapes (huajuan) may also be prepared. Examples include: filled dumplings and steamed bun with meat, jam or other filling (manjyu).

#### **07.1.6. Mixes for Bread and Ordinary Bakery Wares:**

Includes all the mixes containing the dry ingredients to which wet ingredients (e.g. water, milk, oil, butter, eggs) are added to prepare a dough for baked goods from various food categories. Examples include: french bread mix, tin bread mix, panettone mix, ciabatta mix, among others.

### **07.2. Fine Bakery Wares (Sweet, Salty, Savory) and Mixes:**

Includes sub-categories for ready-to-eat products as well as mixes for preparing fine baked goods.

#### **07.2.1. Cakes, Cookies and Pies (e.g. Fruit-Filled or Custard Types)**

The term “sweet cracker” or “sweet biscuit” used in this category refers to a cookie-like product that may be eaten as a dessert. Examples include butter cake, cheesecake, fruit-filled cereal bars, pound cake



(including kasutera), moist cake (type of starchy dessert, western cakes, moon cakes, cream cakes, sponge cake, fruitfilled pies (e.g. apple pie), oatmeal cookies, sugar cookies and british “biscuits” (cookies or sweet crackers).

## **(i) Biscuits**

Biscuits including wafer biscuits shall be made from maida, vanaspati or refined edible oil or table butter or desi butter or margarine or ghee or their mixture containing any one or more of the following ingredients, namely:

edible common salt, butter, milk powder, cereals and their products, cheese cocoa, coffee extract, edible desiccated coconut, dextrose, fruit and fruits products, dry fruit and nuts, egg, edible vegetable products, ginger, gluten groundnut flour, milk and milk products, honey liquid glucose, malt products, edible oilseeds, flour and meals, spices and condiments, edible starches such as potato starch and edible flours, sugar and sugar products, invert sugar, jaggery, protein concentrates, vinegar and other nutrients and vitamins.

Provided that it may contain food additives and artificial sweeteners as standards specified in the standing Codex Alimentarius.

## **(ii) Biscuits (industrial)**

Shall conform to the following standards:

(i)	Moisture	Not more than 4 percent
(ii)	Ash insoluble in HCL (In dry basis)	Not more than 0.05 percent
(iii)	Acidity of ether Extracted fat (as oleic acid)	Not more than 1 percent
(iv)	Rancidity (kries test) of ether extracted fat (In one inch cell)	Below 3R

## **(iii) Biscuits (Bakery)**

Shall conform to the following standards:

(i)	Moisture	Not more than 5.5 percent (with exception for biscuits like macrons, American cookies etc. where Moisture shall not be more than 6 percent
(ii)	Ash insoluble in HCL (on dry basis)	Not more than 0.03 percent
(iii)	Acidity of ether extracted fat (as Oleic acid)	Not more than 1 percent
(iv)	Rancidity (kreis test) of ether extracted fat (in one inch cell).	Below 3R

Where any of the following names or abbreviation of names as is used to describe biscuit it shall contain not less than the quantity shown below in the ingredient.

(i)	Arrow root	5.0 percent of cereal present to be arrowroot
(ii)	Barley	5.0 percent of cereal present to be barley
(iii)	Butter or butter fat or ghee	100 percent of fat present to be butter/ghee
(iv)	Corn flour	5.0 percnet of the cereal present to be corn flour
(v)	Chocolate	10 percent of the total shall be cocoa (defatted).

(vi)	Coconut or coconut fat	50.0 percent of the fat present to be coconut fat
(vii)	Glucose	10 percent of dextrose in finished product, either added as such or derived from glucose
(viii)	Honey	7.0 percent of invert sugar derived from Honey in finished product milk doughed wholly with skim milk or containing equivalent of skim milk powder, the resultant biscuit to contain 1.5 percent lactose equivalent to 3.0 percent separated milk solids
(ix)	Rice	5.0 percent of cereal present to be rice
(x)	Soya	15.0 percent of soya in the finished product
(xi)	Tapioca	5.0 percent of the cereal present to be tapioca

The biscuits shall be fresh, crisp, appropriately baked of satisfactory texture and consistency, pleasant in taste, free from weevils, mould and other deleterious substances.

(v) **Sandwich biscuits**

Sandwich biscuit means a biscuit sandwiched with an emulsion of fat and sugar with or without permitted colours and permitted flavours; and fat used in emulsion preparation shall be construed in accordance with the claim.

Cream biscuits are classic buttermilk biscuits. They are slightly crispy on the outside and pillow-soft on the inside. In cream-based biscuits (no butter), cream shall be of dairy/non-dairy origin, examples include:

**Chocolate coated biscuits**

Moisture                      Not more than 1.6 percent

Fat                              Not less than 28.2 percent)

**Cream sandwiched biscuits**

Moisture                      Not more than 2.3 percent

Fat                              Not less than 23 percent).

No biscuit shall be labeled with the word “egg” or any word of similar meanings unless that biscuit contains not less than 10 percent egg solids calculated on dry basis. In the case of flavoured biscuits, there shall be written on the package the word “flavoured biscuits” or the name of the flavour immediately and conspicuously conjoined with the words “flavoured biscuits” without intervening, written, printed, graphic matter, or any other device.

**(V) Wafer biscuits**

Wafer Biscuit shall be properly baked and shall not show signs of under baking or over baking. They shall be crisp, crunchy and light in texture. The design impressed on them, if any shall be clear. They shall have an agreeable odour typical of well-baked Wafers Biscuit, and shall be free from soapy or other objectionable flavors, insect and fungus infestation. It shall conform to the following standards:

Moisture                      Not more than 3.5%

Acid insoluble ash (on dry basis)	Not more than 0.05%
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Acidity of extracted fat (as oleic acid)	Not more than 1.75%
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#### **(vi) Pastry**

A sweet baked food made from ingredients such as flour, milk, butter, shortening, baked powder or egg. Examples include small cakes, tarts and other sweet baked goods. Pastry shall conform to following standards:

(i)	Moisture	Not more than 20 percent
(ii)	Fat	Not more than 50 percent
(iii)	Salt	Not more than 2 percent

#### **(vii) Puff Pastry**

Puff pastry is a flaky light pastry containing several layers of fat. It shall contain:

(i)	Moisture	Not more than 20 percent
(ii)	Fat	Not more than 50 percent
(iii)	Salt	Not more than 2 percent

#### **Short crust Pastry**

The filling may be sweet or savoury, though modern tarts are usually fruit-based, examples include: bake well tarts, jam tarts and custard tarts. Bake well tart shall contain:

(i)	Moisture	Not more than 15 percent
(ii)	Fat	Not more than 17 percent

Jam tarts shall contain

(i)	Moisture	Not more than 17 percent
(ii)	Fat	Not more than 14 percent

Custard tarts shall contain

(i)	Moisture	Not more than 50 percent
(ii)	Fat	Not more than 15 percent

#### **(viii) Tart**

A tart is a baked dish consisting of a filling over a pastry base with an open top not covered with pastry.

#### **(ix) Tartlet**

Refers to a miniature tart; an example would be egg tarts. The categories of 'tart', flan, quiche and pie overlap with no sharp distinctions.

(i)	Fat	Not more than 9 percent
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#### **(x) Cheesecake**

It is a sweet dessert consisting of one or more layers. The main, and thickest layer, consists of a mixture of soft, fresh cheese (typically cream cheese or ricotta), eggs, and sugar; if there is a bottom layer it often consists of a crust or base made from crushed cookies (or digestive biscuits), graham crackers, pastry or sponge cake. It may be baked or unbaked (usually refrigerated). Cheese cake is usually sweetened with sugar and may be flavored or topped with fruit, whipped cream, nuts, cookies, fruit sauce, and/or chocolate syrup. Cheese cake may be prepared in many flavors, such as strawberry, pumpkin, key lime, chocolate, oreo, chestnut, or toffee.

- |     |     |                          |
|-----|-----|--------------------------|
| (i) | Fat | Not more than 35 percent |
|-----|-----|--------------------------|

#### **(xi) Cream Cake**

This is a rich, moist white cake with great flavor, perfect for decorating. It shall contain dairy based cream, eggs, sugar, flavor, flour, baking powder, and salt. It shall contain moisture not more than 25 percent. Fat shall not exceed 14 percent.

#### **(xii) Non-dairy Cream Cake**

This is a rich, moist white cake with great flavor, perfect for decorating. It shall contain vegetable fat, eggs, sugar, flavor, flour, baking powder, and salt. It shall contain moisture not more than 25 percent. Fat shall not exceed 14 percent.

#### **(xii) Croissant**

Crescent shaped, mostly sweet in taste characterized by its flaky, golden brown crust which might be plane, filled or coated having 2-3 folds with layered and tender crumb. It shall conform to following standards:

- |       |                     |                           |
|-------|---------------------|---------------------------|
| (i)   | Moisture            | Not more than 26 percent  |
| (ii)  | pH                  | Range between 5-6         |
| (iii) | Butter or margarine | Not less than 35 percent  |
| (iv)  | Ash                 | Not more than 6 percent   |
| (v)   | Salt                | Not more than 1.5 percent |

**07.2.2. Other Fine Bakery Products (e.g. Doughnuts, Sweet rolls, Scones, and Muffins):** Includes products that may be eaten as a dessert or as breakfast, examples include: pancakes, waffles, filled sweet buns (pan), danish pastry, wafers or cones for ice cream, flour confectionery, and trifles.

#### **07.2.2.1 Doughnuts**

Doughnuts are snack foods made from deep fried sweet dough usually circular with a hole in the middle but also made in the shape of ball, fingers and stars. These may be filled with jam.

Types include hot doughnuts, cold doughnuts, sugared doughnuts, plane doughnuts and cake doughnuts. These shall contain:

- |       |           |                           |
|-------|-----------|---------------------------|
| (i)   | Moisture  | Not more than 20 percent  |
| (ii)  | Total ash | Not more than 23 percent  |
| (iii) | Ash       | Not more than 1.5 percent |

#### **07.3 Mixes for Fine Bakery Wares (e.g. Cakes, Pancakes):**

Mixes containing the dry ingredients to which wet ingredients (e.g. water, milk, oil, butter, eggs) are added to prepare a dough for fine baked goods. Examples include cake mix, flour confectionery mix, pancake mix, pie mix, and waffle mix.

### **(i) Prepared Cake Mixes**

Means a mixture of flour, sugar, fat, egg, leavening agent with or without permitted food colours and flavours. It shall be free from infestation, rancidity, pathogenic micro-organisms, bitterness and mustiness. It shall contain moisture not more than 13.5 percent. Direction for the preparation shall be declared / written on the label of the package.

### **(ii) Plain Cake**

Means a mixture of flour, sugar, fat, egg, leavening agent with or without permitted food colours and flavours. It shall be free from infestation, rancidity, pathogenic micro-organisms, bitterness and mustiness. It shall conform to following standards:

(i)	Moisture	Shall range between 15-25 percent
(ii)	Acid insoluble ash in HCL	0.1 percent
(iii)	Acidity of extracted fat (as Oleic acid percent by mass)	Not more than 1 percent

### **(iii) Fruit Cake**

Means a mixture of flour, sugar, fat, egg, fruits/preserved fruits, dry fruits, leavening agent with or without permitted food colours and flavours. It shall be free from infestation, rancidity, pathogenic micro-organisms, bitterness and mustiness.

(i)	Moisture	Not more than 25%
(ii)	Acid insoluble ash in HCL	0.1 percent
(iii)	Acidity of extracted fat (as Oleic acid percent by mass)	Not more than 1 percent

### **(iv) Sponge Cake**

Sponge cake is a mixture of flour (maida), shortening (butter or margarine or hydrogenated ground nut oil or other hydrogenated edible oil or their mixture free from free oil conforming to standards of fats and oils) sugar, eggs (poultry eggs; fresh and of good quality or dried egg products) fruits (dry/preserved). It shall conform to following standards:

(i)	Moisture	Not more than 25%
(ii)	Acid insoluble ash in HCL	0.1 percent
(iii)	Acidity of extracted fat (as Oleic acid percent by mass)	Not more than 1 percent

### **(v) Muffins**

Muffins may include enriched flour, sweetening agents, eggs, vegetable oil or vegetable shortening or butter, water, salt, permitted flavoring and leavening agents and emulsifiers/other stabilizers. It shall contain moisture not more than 20 percent. Fat shall not exceed 6 percent.

### **(vi) Baqar Khani**

Means a mixture of flour, with or without sugar, salt, shortening. It shall be free from infestation, rancidity, pathogenic micro-organisms, bitterness and mustiness. It shall contain moisture not more than 5 percent.

### **(vii) Cake Rusk**

Means a mixture of flour, sugar, fat, egg, leavening agent with or without permitted food colours and flavours. It shall be free from infestation, rancidity, pathogenic micro-organisms, bitterness and mustiness.

- |       |                           |                           |
|-------|---------------------------|---------------------------|
| (i)   | Moisture                  | Not more than 10 percent  |
| (ii)  | Acid insoluble ash in HCL | 0.5 percent               |
| (iii) | Acidity of extracted fat  | Not more than 1.5 percent |

(as Oleic acid percent by mass)

#### **(viii) Rusk**

Means a mixture of flour, sugar, fat, salt, yeast as a leavening agent with or without permitted flavor (and may be added zeera, black pepper, cardamom, fennel). It shall be free from infestation, rancidity, pathogenic micro-organisms, bitterness and mustiness. It shall contain moisture not more than 2.5 percent.

#### **(ix) Butter Rusk**

Means a mixture of flour, sugar, butter, salt, yeast as a leavening agent with or without permitted flavor (and maybe added zeera, black pepper, cardamom, fennel). It shall be free from infestation, rancidity, pathogenic micro-organisms, bitterness and mustiness. It shall contain moisture not more than 2.5 percent.

### **07.4. Baking Powder**

Means a combination, capable under conditions of baking, of yielding carbon dioxide, and consists of sodium bicarbonate and acid reacting material, starch or other neutral material. The acid reacting material of baking powder shall be:

- (a) Tartaric acid or its salts or both
- (b) Acid salts of phosphoric acid,
- (c) Acid compounds of aluminum,
- (d) Any combination of the foregoing.

It shall conform to the following standards:

- |       |                          |                           |
|-------|--------------------------|---------------------------|
| (i)   | Available carbon dioxide | Not less than 8.0 percent |
| (ii)  | Residual carbondioxide   | Not more than 1.5 percent |
| (iii) | Acidity of extracted fat | Not more than 1.5 percent |
- (as oleic acid percent by mass)

- (i) There shall be written in the label on a package containing baking powder, the chemical names, proportions of the ingredients and neutralization value.
- (ii) Every package of baking powder for use in food shall be labeled with a direction or its use

Artificial sweeteners i.e Aspartame (methyl ester) Biscuits, bread, cakes and pasteries 2200 ppm

(i) Sweets (carbohydrates based and milk products based) : Halwa, mysore pak, boondi ladoo, jalabi, khoya burfi, peda, gulab jamoon, rasgolla and similar milk product based sweets sold by any name

Acesulfame potassium	200 ppm
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Biscuits, bread, cakes and pasteries	100 ppm
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(ii) Sweets (carbohydrates based and milk products based) : Halwa, mysore pak, boondi ladoo, jalabi, khoya burfi, peda, gulab jamoon, rasgolla and similar milk product based sweets sold by any name

Sucralose 500 ppm

(iii) Biscuits, bread, cakes and pasteries 750 ppm

(iv) Sweets (carbohydrates based and milk products) 750 ppm

Halwa, mysore pak, boondi laddoo, jalabi, khoya burfi, peda, gulab jamoon, rasgolla and similar milk product based sweets sold by any name

(v) Cookies 750 ppm

(vi) Doughnuts / scones / muffins 800 ppm

(vii) Cake mixes 700 ppm

(viii) Ready to serve tea and coffee based preservatives 600 ppm

Products	Preservatives	Limits
Flour for baked food	Sodium diacetate or Propionate	2500 ppm
	Propyl hydroxy benzoate	3200 ppm
Preserved chapaties	Sorbic acid	1000 ppm

Use of xanthan gum: Xanthan gum maybe used in the following products, namely

Non dairy whip toppings Maximum 0.5% by weight

Bakery mixes Maximum 0.5 % by weight

Sequestering and buffering agents Polyphosphate containing less than 6

Cake mixes phosphate moieties

Restricted Substances	Maximum Level ppm
Ammonium carbonate	5000
Baked foods confections	5,000
Ammonium bicarbonate Baking powder in baked goods	2500
Ammonium phosphate in bread monobasic	GMP
Ammonium persulphate	2500
Calcium phosphate	2500
Calcium carbonate	5,000
Potassium bromate and /or Potassium iodate	50
Ammonium chloride	500
Fungal alphaamylase Sodium	100
Stearoyl-2	100
Stearoyl-2 lactylate (singly or in combination)	5,000 lactylate of calcium
Benzoyl peroxide	40
Potassium bromate	20
Ascorbic acid	20
Chlorine	2000
Contaminants and toxins	2,000

Product	Conatminants	Maximum Level
Baking powder	Lead	10ppm
Whole bakery	Mercury (calculated as the element)	0.25 ppm

Table 1 list of food additives for use in bread and biscuits

Sr.No	Name of additive	Bread	Biscuits
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**a. Acid Regulators**

1	Sodium fumarate	GMP	GMP
2	Potassium malate	GMP	GMP
3	Sodium hydroxide	GMP	GMP
4	Acetic acid or lactic acid	2500 ppm Maximum	GMP
5	Citric acid	-	GMP
6	Malic acid	-	GMP
7	Tartaric acid	-	GMP

**b. Emulsifying and Stabilizing Agents Singly or in Combination**

	Emulsifying and stabilising agents listed suitable for this product may be used	10000 ppm Mximum	GMP
1	Sucroglycerides	GMP	GMP
2	Hydroxypropyl methyl cellulose	GMP	GMP
3	Sucrose esters of fatty acid	GMP	GMP
4	Di-acetyl tartaric acid esters of di-glycerides	GMP	1000 ppm
5	Guar gum	5000 ppm Maximum	GMP
6	Sorbitol	GMP	GMP
7	Lecithin	GMP	GMP
8	Glycerine (Halal)	GMP	-
9	Glycerol monostearate	GMP	-
10	Sodium stearoyl 2 lactylate of calcium stearoyl 2 lactylate (singly or in combination)	5000	-
11	Polyglycerol esters of fatty acids and polyglycerol esters of interesterified ricinoleid acid	2000 ppm	-

**c. Improver**

1	Fungal alpha amylase	100 ppm	-
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		Maximum (on flour mass basis)	
2	Bacterial amylase	GMP	GMP
3	Amylases and other enzymes	-	GMP
4	Ammonium persulphate	2500 ppm Maximum (on flour mass basis)	-
5	Calcium phosphate	2500 ppm Maximum (on flour mass basis)	-
6	Calcium carbonate	5000 ppm Maximum (on flour mass basis)	-
7	Potassium bromate and/or potassium iodate	50 ppm Maximum (on flour mass basis)	-

**d. Flour Treatment Agent**

1	Ammonium chloride	500 ppm Maximum (on flour mass basis)	-
2	L-cystein mono hydrochloride	90 ppm Maximum (on flour mass basis)	-
3	Ammonium phosphate	2500 ppm Maximum (on flour mass basis)	-
4	Benzoyl peroxide	40 ppm Maximum (on flour mass basis)	40 ppm Maximum (on flour mass basis)

Sr.No	Name of Additive	Bread	Biscuits
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**e. Antioxidant**

1	Ascorbic acid	GMP	GMP
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**g. Colours (can be used singly or in combination within the specified limits)**

**a. Natural**

1. Chlorophyll
2. Caramel
3. Curcumin or turmeric
4. Beta spo-8 carotenal
5. Methylene ester of beta-apo-b carotenic acid
6. Ethylester of beta-apo-8 carotenic acid
7. Canthaxanthin
8. Riboflavin, lactoflavin

9. Annatto

10. Saffron

**b. Synthetic**

1. Ponceau 4R

2. Carmoisine

3. Erythrosine

4. Tartnazine

5. Brilliant blue FCF

6. Indigo Carmine

7. Fast green FCF

**h. Artificial Sweeteners (Singly)**

Sr.No	Name of Additive	Bread	Biscuits
1	Aspartame	2200 ppm Maximum	2200 ppm Maximum
2	Acesulfame potassium	1000 ppm Maximum	1000 ppm Maximum
3	Sucralose	750 ppm Maximum	750 ppm Maximum

**i. Leavening agent**

Sr.No	Name of Additive	Bread	Biscuits
1	Baking powder	GMP	GMP
2	Ammonium bi-carbonate	GMP	GMP
3	Ammonium carbonate	5000 ppm Maximum	5000 ppm Maximum

**j. Flavours**

Sr.No	Name of Additive	Bread	Biscuits
1	Natural flavours and natural flavouring substances/nature identical flavouring substances/ artificial flavouring substances.	-	GMP

**k. Flavour improver/ Enhancer**

In conformity with the GMPs and in accordance with these regulations.

**l. Nutrient**

Sr.No	Name of Additive	Bread	Biscuits
1	Calcium and ferrous salts	-	GMP

2	Potassium iodate	-	GMP
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#### m. Dough Conditioners

Sr.No	Name of Additive	Bread	Biscuits
1	Sodium bisulphite	-	GMP
2	Sodium metabisulphite	-	GMP

#### n. Yeast

**GMP**

#### o. Jellifying agents

**GMP**

#### 07.5. Baker's Yeast

The Baker's Yeast shall be of the following types:

(i) Baker's Yeast Compressed

(ii) Baker's Yeast Dried.

(i) Baker's Yeast (Compressed) shall be in the form of a block having creamy white colour, and odour characteristic of good baker's yeast (compressed) and a fine even texture. It shall not be slimy or mouldy and shall not show any sign of deterioration or decomposition. It shall be free from extraneous materials. Starch of an edible quality may, however, be added in a quantity not exceeding 7% by weight on dry basis. Permissible edible binders and fillers may be added. It shall break sharply on bending. The yeast blocks shall be stored at temperature between 1 to 50°C.

(ii) Baker's Yeast (Dried) shall be in the form of small powder granules, pellets or flakes. It shall have an odour characteristic of good baker's yeast (dried). It shall not be mouldy and shall not show any sign of deterioration or decomposition. It shall be free from adulterants and other extraneous materials. Starch of an edible quality may, however, be added in a quantity not exceeding 10 % by weight of the material. The yeast shall be stored in a cool and dry place at a temperature not more than 25°C.

Baker's Yeast shall conform to the following standards:

Characteristics	Requirements for	
	Baker,s yeast compressed	Baker,s yeast dried
Moisture, percent by weight, maximum	73	8
Dispersibility in water	To satisfy the test	To satisfy the test
Fermenting power, Minimum	1000	350
Dough-raising capacity	To satisfy the test	To satisfy the test

**Annex 7:**  
**Microbiological Limits of Bakery products**

Parameter	Unit	Bread (All types)	Biscuits	Pastries Cakes & Muffins	Doughnuts	Miscellaneous
<b>Total plate count</b>	CFU/g	<50000	<50000	<50000	<50000	<50000
<b><i>Staph.aureus</i></b>	CFU/g	<100	<100	<100	<100	<100
<b>Coliform</b>	CFU/g	<100	<100	<100	<100	<100
<b><i>E. coli</i></b>	CFU/g	Absent	Absent	Absent	Absent	Absent
<b><i>Salmonella</i></b>	Per 25 g	Absent	Absent	Absent	Absent	Absent
<b>Yeast/mold</b>	CFU/g	<500	<100	<500	<500	<500

## Chapter 8

### 08.0 Meat and Meat Products, Including poultry and Game

This category includes all types of halal meat (beef, mutton), poultry (chicken, duck, turkey ostrich etc.), and game (quail etc.), rabbit products, in pieces and cuts or comminuted, fresh and processed. All kinds of meat and meat products including poultry and game shall make compliance to the standing Codex Alimentarius Commission Standards according to their corresponding notes and quality criteria prescribed in annexures (08.1, 08.2, 08.3 and 08.4). Nutritional labeling shall be in the descending order where applicable. This category shall conform to the following standards:

Additive	Maximum Level
(i) Brilliant blue FCF	100 mg/kg
(ii) Caramel III ammonia caramel	GMP
(iii) Caramel IV sulfite ammonia caramel	GMP

#### Meat or Meat Product

Meat shall not contain any kind of added hormones. Examples of hormone may include but not limited to

- (a) Diethylstilbestrol [3,4-bis (p-hydroxyphen)-3-hexene];
- (b) Hexoestrol [3, 4-bis (p-hydroxyphenyl)-n-hexane];
- (c) Dienoestrol [3, 4-bis (p-hydroxyphenyl)-2, 4-hexadiene]

#### (a) Meat Product

Means the product prepared from halal meat (beef and mutton, etc.)

### 08.1. Fresh Meat, Poultry, and Game

Meat or fresh meat means the edible part of the skeletal muscle of a halal animal (including poultry and game), other than fish, that is normally used for human consumption and that (animal) was healthy at the time of slaughter and shall be slaughtered in accordance with Islamic injunction. It may contain accompanying and overlying fat together with portions of bone, skin, sinew, nerve and blood vessels that normally accompany the muscle tissue and are not separated from it in the process of dressing. Animal shall be free from disease (any abnormality affecting safety and or suitability as specified in the Annexure (08.1) and (8.2). The term fresh on a poultry label refers to any raw poultry product whose internal temperature should never been below – 3.3°C and above 25°C. There is “zero tolerance” standard for visible fecal material on poultry carcasses. An improperly bled chicken has cherry red skin and is condemned. The products of this category shall conform to the following standards:

Kind of Meat	Meat Color	Fat Color	Medulla Color
Beef	Red velvet with violet stripes	White	Grey with violet shade
Mutton	Grey-brown with stripes	Clear White	Grey-Yellow
Poultry	Light pinkish to slight yellow	Clear White	Grey-Yellow

## Meat pH

pH of meat soon after slaughter	07 – 7.2
pH After some hours of slaughter	6.2 – 6.4
pH After 24–48 hours of slaughter	5.30 – 5.70

### 08.1.1. Fresh Meat with Additives

Fresh products are usually free of additives, but in certain circumstances, additives might be used for certification stamps on the surfaces of fresh cuts of meat, and are indicated in the food category system with a notation for “stamping, marking or branding the product.” This is indicated with a notation for “use as a glaze or coating (surface treatment).” The coatings shall conform to the following standards:

(i)	Disodium 5'-guanylate	GMP
(ii)	Disodium 5'-inosinate	GMP
(iii)	Fast Green FCF 100 mg/kg	100 mg/kg
(iv)	Mono ammonium l-glutamate	GMP (should be halal source)
(v)	Monosodium l-glutamate	GMP

### 08.1.2. Lean Meat

Lean meat shall be meat from which the overlying fat has been removed. It shall not contain more than 10 percent of total fat (less than 5 percent in extra lean) and 75 percent water.

**08.1.3. Fresh Meat, Poultry and Game, Whole Pieces or Cuts:** This category includes whole carcasses, pieces or cuts of the untreated raw meat (beef and mutton), poultry and game animals of halal origin, examples include: fresh whole beef or mutton, chicken and game and their cuts (e.g. steaks) and other organs and parts (e.g. heart, liver, gizzard). The additives if any shall be used under good manufacturing practices (GMPs).

Additive	Maximum Level
(i) Carotenes, beta-, vegetable	20 mg/kg (Codex)
(ii) Carotenoids	100 mg/kg (Codex)
(iii) Grape skin extract	1000 mg/kg (Codex)
(iv) Isopropyl citrates	200 mg/kg (Codex)

### 08.1.4. Sausages

Sausages mean the products, which are cooked ground, chopped or comminuted meat with seasoning or cured and formed. Meat shall be fresh and obtained from healthy halal animals. It shall be free from clots, bone, skin, gristle, serous membranes, coarse connective tissue, pathogenic organisms, bacterial toxins and any harmful substance. Surface of sausages must be dry, clean, not tattered, without molds, not covered with fat. At the surface of boiled sausages there should not be any dark spots. Wrap must be elastic, not mucous, not separated from meat. Their meat shall be pressed well, not crumbling, without air caves. Color of good quality sausage is pink, without grey spots it shall be stuffed in natural / artificial casing (tight, not softened). It shall contain at least 60% of its meat as lean meat content and shall also conform to the following standards: -

(i)	Moisture	Less than 75%
(ii)	Total protein	Not less than 18%
(iii)	Fat	Not less than 18%
(iv)	Ash	Not less than 2.5%

#### **08.1.4.1 Edible Casings (e.g. Sausage Casings):**

Casings or tubing shall be prepared from collagen, cellulose, or food-grade synthetic material or from natural sources (e.g. sheep intestines) that contain the sausage mix. Edible casings shall conform to the following standards of preservatives as applicable under specific notes given in the Codex Alimentarius.

<b>Additive</b>	<b>Maximum Level</b>
(i) Allura red AC	300 mg/kg
(ii) Ascorbyl esters	5000 mg/kg
(iii) Carotenes, beta-, vegetable	5000 mg/kg
(iv) Carotenoids	100mg/kg
(v) Fast green FCF	100 mg/kg
(vi) Grape skin extract	5000 mg/kg
(vii) Hydroxybenzoates, para-	36 mg/kg
(viii) Iron oxides	1000 mg/kg
(ix) Nisin	7 mg/kg
(x) Phosphates	1100 mg/kg
(xi) Polysorbates	1500 mg/kg
(xii) Ponceau 4R (cochineal red a)	500 mg/kg
(xiii) Riboflavins	1000 mg/kg
(xiv) Sorbates	1000 mg/kg
(xv) Tocopherols	5000 mg/kg

#### **08.1.4.2 Value Added Special Products**

##### **(a) Partially Fried Products (Ready to Cook/Easy Cook):**

(i) Coated products (mechanically formed or manually formed) coated chicken products (mechanically formed or manually shaped) are produced from chicken meat and other ingredients and have a layer of specific coating material. These products are partially fried in cooking oil and frozen after packing. Examples include nuggets, croquettes, tempura, coated wings, fun nuggets and tender pops etc.

(ii) Uncoated Products (Mechanically Formed or Manually Formed) uncoated products are produced with chicken meat and other ingredients but do not have any layer of coating material. Examples include chapli kabab, kofta (meat balls) and wings etc.

##### **(b) Fully Cooked Products (Ready to Eat/Quick Serve)**

(i) Without Smoke flavour: Such chicken products are cooked to a temperature deemed sufficient to kill pathogenic microorganisms and have no smoke flavor. Examples include kofta kabab, mughlai tikka and chicken chunks etc.

(ii) With Smoke flavour: These fully cooked products have a smoke flavor which is achieved through natural wood smoke or equivalent.

#### 08.1.4.3. Minced Meat or Ground Meat

Means the fresh, chilled, or frozen meat that has been disintegrated by mincing or chopping, the meat shall only be from Halal animal source. It shall not contain meat of different animal origin and shall be free from any visceral organs and fat shall not be more than 10 percent.

#### 08.1.4.4. Meat Paste

Means paste, which includes meat spread, prepared from halal meat, cooked or uncooked, with or without additives and other foods. It shall be readily spreadable product, with a meat content of not less than 70 percent, in the form of finely divided meat, and not less than 60 percent of the meat content shall be lean meat. It shall be free from every particle of bone, gristle, grittiness, objectionable flavour, pathogenic microorganism or bacterial toxins or any harmful substance and shall be pleasant in taste and smell. It shall conform to the following standards.

(i)	Total protein	Not less than 18 percent
(ii)	Fat	Not more than 12.5 percent
(iii)	Ash	Not more than 2.5 percent

#### 08.1.5 Value Added Products

##### 08.1.5.1 Following Specifications shall be Followed:

Sr.No	Category	Minimum Protein	Minimum Meat	Maximum Fat
1	Non-coated items	16%	65%	12%
2	Coated items	14%	55%	12%
3	Cold cuts	18%	65%	12%
4	Sausages	18%	65%	12%

#### 08.1.5.2. Shami Kabab

Means a product prepared from meat with gram flour and with or without seasoning, spices, salt and coated with egg paste and fried with edible fat/oil. It shall contain not less than 50 percent of meat.

#### 08.1.5.3. Seekh Kabab, Qeema ki Tikki

Means a product prepared from meat with seasoning, spices, salt, edible fats/oil. The meat used shall be free from gristle, bone, skin, clots, and serous membrane, coarse, connective tissue. It shall contain not less than 70 percent in the form of finely divided meat and not less than 60 percent of the meat content shall be lean meat. It shall conform to the following standards:

(i)	Total protein	Not less than 18 percent
(ii)	Fat	Not more than 12.5 percent

#### 08.1.5.4. Burger Patties (Chicken, Mutton, Beef and Fish)

Means the minced meat product comprising of a minimum of 80 percent meat with or without the addition of cereal, spices, salt, herbs, sugar, vinegar, sodium caseinate or other foodstuffs made into a flat shape, fried



and sandwiched with bread roll. The weight of bread shall not be more than the weight of burger patty. Burger patty shall contain not less than 18 percent protein.

#### **08.1.5.5. Hunter Beef**

Means a product prepared from a clean, wholesome beef meat obtained from a healthy animal free from disease and sickness. It shall be properly cured with sodium chloride, vinegar or lime/lemon juice and with or without curing mixture (sodium nitrite, sodium nitrate) and baked to give it an acceptable texture. It shall be free from pathogenic organisms, bacterial toxins and any deleterious substance. It shall conform to the following standards:

(i)	Moisture	Not more than 15 percent
(ii)	Total protein	Not less than 35%
(iii)	Fat	Not more than 10 percent
(iv)	Sodium Chloride	Not more than 5 percent
(v)	Lead	Less than 1 ppm

#### **08.1.5.6. Meat Cubes (Chicken, Mutton, Beef)**

Means a product prepared from hydrolysed protein, meat stock, flour, yeast extract, caramel, salt, meat extract, meat fat, desiccated meat, spices and seasoning and other flavouring. It shall conform to the following standards:

(i)	Moisture	Not more than 5.0 percent
(ii)	Nitrogen	Not less than 2.0 percent
(iii)	Ash	Not more than 32 percent
(iv)	Salt	Not more than 27 percent
(v)	Fat	20-36 percent
(vi)	MSG	Zero percent

#### **08.1.5.7. Meat Extracts, Meat Essences and Meat Juices**

Means the product obtained by extracting fresh meat with boiling water and concentrating the liquid by evaporation after removal of the fat. It shall conform to the following standards:

(i)	Total solid matter	Not less than 75 percent
(ii)	Sodium chloride	Not more than 12 percent
(iii)	Fat	Not less than 0.6%
(iv)	Nitrogen	Not less than 8 percent
(v)	Nitrogenous compounds	Not less than 40 percent

#### **08.1.5.8. Chopped Meat**

Means the product prepared from edible portion of halal meat of mammalian animals (beef and mutton) and poultry slaughtered in accordance with Islamic injunctions.

The product shall be uniformly cured with edible common salt and sodium or potassium nitrite. The product may be with or without binders such as cereal flour/starch, bread, biscuit, or bakery product. Vegetable protein product, fructose, invert sugar; dextrose, lactose, maltose, glucose syrup including corn syrup, spices, seasoning and condiments and water soluble hydrolysed protein.

The product may be smoked and flavoured with permitted flavors and flavor enhancers.

The product may contain ascorbic acid / isoascorbic acid and its sodium salts singly or in combination not exceeding 500 mg/kg expressed as ascorbic acid and sodium and or potassium mono-di-polyphosphate, singly or in combination not exceeding 3000 mg/kg expressed as  $P_2O_5$  as antioxidants and water retention agent respectively. The product shall be packed in hermetically sealed containers which shall not show any change on incubation at 35°C for 10 days and 55°C for 5 days. The product shall be clean and substantially free from staining and contamination from the container, foreign matter and shall be capable of being sliced. The product shall conform to the following requirements as given below.

Charateristics	Limits
Total fat content	
(a) Product without binder	Not more than 25.0 perecnt
(b) Product with binder (halal)	Not more than 30.0 percent

The microbial quality should conform to the standards given in annexure (8.2).

## 08.2. Processed Meat, Poultry, and Game Products in whole Pieces or Cuts

Includes various treatments for non-heat treated meat cuts and heat-treated meat cuts. It also includes whole carcass (raw), cuts and other value added products. These products shall make compliance to the following levels of additives to be used under particular notes as given in the Codex Alimentarius Commission.

Additive	Maximum Level
(i) Butylated hydroxyanisole	200 mg/kg
(ii) Butylated hydroxyanisole	100 mg/kg
(iii) Carotenes, beta, vegetastble	5000 mg/kg
(iv) Erythrosine	30 mg/kg
(v) Fast green FCF	100 mg/kg
(vi) Grape skin extract	5000 mg/kg
(vii) Polysorbates	5000 mg/kg
(viii) Propyl gallate	200 mg/kg
(ix) Riboflavins	1000 mg/kg
(x) Sodium diacetate	1000 mg/kg
(xi) Tertiary butylhydroquinone	100 mg/kg
(xii) Tocopherols	500 mg/kg

### 08.2.1. Non-heat Treated Processed Meat,

Poultry and Game Products in Whole Pieces or Cuts. This category describes several treatment methods (e.g. curing, salting, drying, pickling) that preserve and extend the shelf life of the meats obtained from halal sources. The products shall conform the following standards:

Additive	Maximum Level
(i) Lauricarginate ethyl ester	200 mg/kg
(ii) Phosphates	2200 mg/kg

#### 08.2.1.1. Cured (Including Salted) Non-Heat Treated Processed Meat, Poultry, and Game Products in Whole Pieces or Cuts

Salted products are treated with sodium chloride. Dry cured (dry pickled) products are prepared by rubbing salt directly on the meat surface. Wet pickle cured products are prepared by submerging the meat in a

brine solution. Pump cured products are prepared by injecting brine into the meat. Curing may also be achieved by addition of additives. Smoked products are also included here, examples include: corned beef; marinated beef; and different types of oriental pickled products like soy sauce-pickled meat. The products under this category shall conform to the following standards:

Additive	Maximum Level
(i) Sorbates	200 mg/kg

#### **08.2.1.1.1. Corned Beef**

Means the product prepared from boneless meat of carcass of bovine animals including buffalo meat, which have been subjected to ante mortem and postmortem inspection. The product shall be uniformly cured with edible common salt and sodium and / or potassium nitrite.

The product may contain ascorbic acid, sodium ascorbate or isoascorbate acid/ sodium iso ascorbate singly or in combination not exceeding 500 mg/kg. The product may also contain sucrose, dextrose, lactose, maltose and glucose syrup including corn syrup.

The product shall be packed in hermetically sealed containers which shall not show any change of color on incubation at 35°C for 10 days and 55°C for 5 days. The product shall be in the form of a solid pack capable of being sliced. The product shall be free from any added colour and natural and artificial flavour. The product shall be clean and substantially free from staining and contamination from the container, foreign matter and objectionable odour. Microbial quality should meet the criteria given in annexure (8.2).

#### **08.2.1.2. Cured (Including Salted) and Dried Non-Heat Treated Processed Meat, Poultry, and Game Products in Whole Pieces or Cuts:**

The meat cuts may be cured or salted as described for above category, and then dried, or they may only be dried. Drying may be achieved either in hot air or in vacuum or similar heat treatments. Examples include: dried salt beef/mutton and dehydrated meats. Products of this category shall conform to the following standards.

Additive	Maximum Level
(i) Benzoates	1000 mg/kg
(ii) Isopropyl citrates	200 mg/kg
(iii) Natamycin (pimaricin) (halal)	6 mg/kg
(iv) Sorbates	2000 mg/kg

#### **08.2.1.3. Fermented Non-Heat Treated Processed Meat, Poultry, and Game Products in Whole Pieces or Cuts.**

Fermented products are a type of pickled product produced by the action of lactic acid bacteria in the presence of salt, examples include: potted beef and mutton and pickled (fermented) halal animal's head and feet. Products under this category shall conform to the following standards.

Additive	Maximum Level
(i) Sorbates	200 mg/kg

#### **08.2.2. Heat-treated Processed Meat, Poultry, and Game Products in Whole Pieces or Cuts:**

Includes cooked (including cured and cooked, and dried and cooked), heat-treated (including sterilized) and canned meat cuts. Examples include: cured, cooked beef and mutton; cured, cooked beef and mutton shoulder; canned chicken meat; and meat pieces boiled in soy sauce. In cooked and ready-to-eat chicken products, there is zero tolerance for *Salmonella* and *Listeria monocytogenes*

These products shall conform to the following standards:

Additive	Maximum Level
(i) Lauricarginate ethyl ester	200mg/kg
(ii) Nisin(halal)	25 mg/kg
(iii) Nitrites	80 mg/kg
(iv) Phosphates	1320 mg/kg
(v) Sorbates	200 mg/kg

### **08.2.3. Frozen Processed Meat, Poultry, and Game Products in Whole Pieces or Cut**

#### **08.2.3.1. Frozen Meat**

Means meat that continuously from the time of preparation up to the time of sale has been maintained at a temperature below -18°C and shall not have been thawed before sale. The temperature of frozen meat at any time does not exceed minus 12°C. Raw poultry held at 0°F (-17.8°C) or below must be labeled frozen or previously frozen. Includes raw and cooked meat cuts that have been frozen, examples include: frozen whole chickens, frozen chicken parts, and frozen beef steaks. No hormones are used in the raising of chickens. The product shall conform to the following requirements.

Additive	Maximum Level
(i) Lauricarginate ethyl ester	200 mg/kg
(ii) Mineral oil, high viscosity	950 mg/kg
(iii) Phosphates	2200 mg/kg
(iv) Sorbates	200 mg/kg

#### **08.2.3.2. Frozen Mutton and Beef**

Means the product prepared from edible portion of meat of caprine and ovine animals including buffalo meat slaughtered in accordance with Islamic injunctions, which have been subjected to antemortem and postmortem inspection. The fresh meat meant for freezing shall be clean, free from any foreign matter, objectionable odour/flavour and evidence of deterioration. Meat shall be prepared by quickly freezing in an appropriate equipment in such a way that the range of temperature of maximum crystallization is passed quickly and the product attains a temperature of - 18°C or colder at the thermal center after thermal stabilization. The product shall be kept deep frozen so as to maintain its quality during transportation, storage and sale. The product shall conform to the microbial quality given in annexure (8.2).

#### **08.2.3.3. Chilled Meat**

Means the meat that has been maintained in a wholesome condition at a temperature between minus -1°C to 5°C and it includes frozen meat that has been thawed at a temperature of not more than 5°C. Chilled meat requires refrigeration promptly.

### 08.3. Processed Comminuted Meat, poultry, and Game Products

This category includes various treatments for non-heat treated products and heat-treated products and they shall conform to the following requirements.

Additive	Maximum Level
(i) Butylated hydroxyanisole	200 mg/kg
(ii) Butylated hydroxyanisole	100 mg/kg
(iii) Erythrosine	30 mg/kg
(iv) Grape skin extract	5000 mg/kg
(v) Nitrites	80 mg/kg
(vi) Phosphates	2200 mg/kg
(vii) Polysorbates	5000 mg/kg
(viii) Propyl gallate	200 mg/kg
(ix) Propylene glycol alginate	3000 mg/kg
(x) Riboflavins	1000 mg/kg
(xi) Sodium diacetate	1000 mg/kg
(xii) Sorbates	1500 mg/kg
(xiii) Tertiary butylhydroquinone	100 mg/kg
(xiv) Tocopherols	500 mg/kg

#### 08.3.1. Non-heat Treated Processed Comminuted Meat, Poultry, and Game Products

This category describes several treatment methods (e.g. curing, salting, drying, pickling) that preserve and extend the shelf life of comminuted and mechanically deboned meat products. Products of this category shall conform to the following requirements.

Additive	Maximum Level
(i) Carotenes, beta, vegetable	20 mg/kg
(ii) Lauricarginate ethyl ester	315 mg/kg

##### 08.3.1.1. Cured (Including Salted) Non-heat Treated Processed Comminuted Meat, Poultry, and Game Products

Salted products are treated with sodium chloride. Dry cured (dry pickled) products are prepared by rubbing salt directly on the meat surface. Wet pickle cured products are prepared by submerging the meat in a brine solution. Pump cured products are prepared by injecting brine into the meat. Curing may also be achieved by addition of additives also includes smoked products. Examples include: salami-type products, fresh, cured sausage, and smoked sausage. Products under this category shall conform to the following requirements.

Additive	Maximum Level
(i) Canthaxanthin	100 mg/kg
(ii) Carotenoids	00 mg/kg

##### 08.3.1.1.1. Canned Meat

Shall be prepared from the meat of halal healthy animals free from disease and sickness, slaughtered in accordance with the Islamic injunction. The canned meat shall consist of meat, with its accompanying and portions of its overlying fat, in moderately sized pieces free from portions of head, neck, skin, shin, hock, blood, bone, skirt, sinew, hard gristle, glands and viscera etc. It shall be packed in clean containers that are processed and hermetically sealed by heat to ensure preservation. It may contain water, salts, condiments,

spices and permitted preservatives, flavouring substances. A can shall contain lean meat of one kind of animal only and not less than 90 percent meat. Further canned meat shall conform to the following standards:

<b>Canned Meat Parts</b>		<b>Proportion</b>
(i)	Fats	Not more than 10 percent
(ii)	Salts	Not more than 1.4 percent
(iii)	Bones (permissible in canned poultry only)	Not more than 14 percent

Chemical composition: general amount of proteins in canned beef must be not less than 21 percent (mass percent). Meat amount in salted canned beef can be from 80 to 90 percent (mass percent) and more.

#### **08.3.1.1.2. Canned Chicken**

Means the product prepared from edible portion of meat of poultry birds, slaughtered according to Islamic injunctions, which have been subjected to antemortem and postmortem inspection. The product shall be free from bones, blood clots, skin, hair, viscera and bruised/disintegrated material. The product shall be cured with a mixture of edible common salt and sodium nitrite. The product shall be free from added colour flavour and meat tenderizer. The packing medium and other ingredients shall be of food grade quality.

The product shall be packed in hermetically sealed clean and sound tin containers which shall not show any change on incubation at 35°C for 10 days and 55°C for 5 days.

The contents shall have the characteristic colour, free from objectionable odour, discoloration and excessive disintegration.

The product shall conform the microbial quality standard given in annexure (8.2).

#### **08.3.1.1.3. Canned Mutton**

Means the product prepared from edible portion of meat of caprine animals slaughtered according to Islamic injunctions, which have been subjected to ante mortem and postmortem inspection. The product shall be free from bones, blood clots, skin, hair, strings and fibrous tissue, bruised material, viscera, tendons and excessive fat. The product shall be cut into pieces of reasonably uniform size and cured with a mixture of edible salt and sodium nitrate and or sodium nitrite. The product shall be free from added colour, flavour and meat tenderizing agents. The packing medium and other ingredients shall be of food grade quality. The product shall be packed in hermetically sealed clean and sound tin containers which shall not show any change on incubation at 35°C for 10 days and 55°C for 5 days. The contents shall have characteristic colour, free from objectionable odour, discoloration and excessive disintegration. The product shall conform to the microbial quality standards given in annexure (8.2).

#### **08.3.1.1.4. Meat Canned with other Food**

Means the meat product prepared from meat of halal healthy animals free from disease and sickness, slaughtered in accordance with the Islamic injunctions/guidelines, with other food, and processed. The meat used shall consist of fresh skeletal muscle of animals with its accompanying and portions of its overlying fat, in moderately sized pieces free from portions of head, neck, skin, shin, hock, blood, bone skirt, sinew, hard gristle, glands and viscera etc. It shall be packed in clean containers that are hermetically sealed and processed by heat to ensure preservation. It may contain permitted preservatives and flavouring substances. It shall contain lean meat of one kind of animal only and not less than 40 percent of meat.

Product	Preservative limit
(i) Dehydrated soup mix when sulfur dioxide Packed in container other than can	1000 ppm

#### 08.3.1.1.5. Meat with other Food

Means the product prepared from meat with other food with or without vegetables, cereals, edible fat/oils, seasoning, spices, salt etc. Without soup it shall conform to the following standards:

- (i) Meat not less than 35 percent

#### 08.3.1.2. Cured (Including Salted) and Dried Non-heat Treated Processed Comminuted Meat, Poultry, and Game Products:

The comminuted or mechanically deboned products may be cured or salted and then dried, or they may only be dried. Drying may be achieved either in hot air or in vacuum etc. Examples include: dried sausages and cured sausages. The products shall show conformance to the following requirements.

Additive	Maximum Level
(i) Benzoates	1000 mg/kg
(ii) Carotenoids	20 mg/kg
(iii) Isopropyl citrates	200 mg/kg
(iv) Natamycin (pimaricin)	20 mg/kg

#### 08.3.1.3. Fermented Non-heat Treated Processed Comminuted Meat, Poultry, and Game Products

Fermented products are a type of pickled product produced by the action of lactic acid bacteria in the presence of salt. Certain types of sausages may be fermented. The products shall conform to the following requirements.

Additive	Maximum Level
(i) Carotenoids	20 mg/kg

#### 08.3.2. Heat-treated Processed Comminuted Meat, Poultry, and Game Products

Includes cooked (including cured and cooked, and dried and cooked), heat-treated (including sterilized) and canned comminuted products. Examples include: pre-grilled beef patties; pates; cooked, cured chopped meat; chopped meat boiled in soy sauce; canned corned beef; luncheon meats; meat pastes; cooked meat patties; cooked salami-type products; cooked meatballs; breakfast sausages; brown-and-serve sausages; and terrines (a cooked chopped meat mixture). Cook all poultry to an internal temperature of 165 °F (73.9 °C). The product under this category shall conform to the following standards:

Additive	Maximum Level
(i) Allura red AC	25 mg/kg
(ii) Carotenes, beta-, vegetable	20 mg/kg
(iii) Carotenoids	20 mg/kg
(iv) Ethylene diamine tetra acetates	35 mg/kg
(v) Lauricarginate ethyl ester	200 mg/kg
(vi) Nisin	25 mg/kg

### 08.3.2.1. Luncheon Meat

Means the product prepared from edible portion of halal meat of mammalian animal, slaughtered according to Islamic injunctions, which have been subjected to antemortem and postmortem inspection and/or edible meat of poultry, birds, including chickens, turkeys, ducks, geese, fowl or pigeons. The product shall be uniformly cured with edible common salt and sodium and /or potassium nitrite. The product may be with or without binders such as cereal flour/starch, bread, biscuits or bakery products, milk powder, whey powder, egg protein, vegetable protein products, glucose, invert sugar, dextrose, lactose, maltose, glucose syrup, including corn syrup, spices, seasoning and condiments and water soluble hydrolysed protein. The product should contain minimum 60 percent of meat.

The product may be smoked and flavoured using permitted flavours and flavour enhancer.

The product may contain ascorbic acid / isoascorbic acid and its sodium salts singly or in combination not exceeding 500 mg/kg expressed as ascorbic acid as antioxidant and sodium and or potassium mono - di - polyphosphates singly or in combination not exceeding 3000 mg/kg expressed as  $P_2O_5$  as water retention agents.

The product shall be packed in hermetically sealed container which shall not show any change on incubation at 35°C for 10 days and 55°C for 5 days. The product shall be clean and substantially free from stains from the container and foreign matter and shall be capable of being sliced. The product shall conform to the following requirement, namely;

Characteristics	Limits
Total fat content	
(a) Product without binder	Not more than 30.0 percent
(b) Product with binder	Not more than 35.0 percent

### 08.3.3. Frozen Processed Comminuted Meat, Poultry, and Game Products

Includes raw, partially cooked and fully cooked comminuted or mechanically deboned meat products that have been frozen. Examples include: frozen beef patties; frozen breaded or battered chicken fingers. It is safe to freeze ready-prepared chicken. For best quality, flavor, and texture, use it within 4 months. These products shall conform to the following standards.

Additive	Maximum Level
(i) Carotenes, beta-, vegetable	20 mg/kg (Codex Alimentarius)
(ii) Lauricarginate ethyl ester	200 mg/kg (Codex Alimentarius)
(iii) Mineral oil, high viscosity	950 mg/kg

### 08.4. Particular Labelling Requirements of Meat and Meat Products

There shall be written on the label of a package containing meat and meat product, is not less than 10 point lettering “the common name of the kind of meat from which its content has been prepared”. For the detailed labeling instructions specific labeling regulations shall be consulted.



## Annexure 8.1:

### Chemical Contaminants Limits for Various Meat and Meat Products

#### (a) Contaminant or Toxins

Product	Contaminants	Maximum Level
Canned meats, meat extracts and hydrolysed protein	Lead	0.5 ppm
Iron fortified common salt corned beef, luncheon meat, chopped meat, canned chicken, etc.	Lead	0.5 ppm
Canned mutton	Lead	0.5 ppm
Corned beef, chopped meat canned chicken, canned mutton	Tin	40 ppm
Meat	Mercury	1.0 ppm
	Mercury (calculated as the element)	0.25 ppm

#### (b) Insecticides

Product	Contaminants	Maximum Level
Meat	Aldrin, dieldrin (the limits apply to aldrin and dieldrin singly or in any combination and are expressed as dieldrin)	0.2 mg/kg
Meat and meat poultry	DDT (the limits apply to DDT, DDE and DDE singly or in any combination (on whole product basis)	7.0 ppm
Meat	Fenitrothion	0.03 ppm
Meat and meat poultry	Hexachlorocyclohexane	2.0 ppm (on whole isomers (gamma) known as lindane basis)
Meat and meat poultry	Chlorpyrifos	0.1 ppm
Meat and meat poultry	2,4 D	0.05 ppm
Meat and meat poultry	Residues to be determined as Ethion and its oxygen analogue expressed as Ethion	0.02 ppm (carcass fat basis)
Meat and meat poultry	Monocrothphos	0.02 ppm
Meat and meat poultry	Trichlorfon	0.1 ppm
Meat and meat poultry	Benomyl	0.1 ppm (carcass fat basis)
Meat and meat poultry	Carbofuran (sum of carbofuran and 3-hydroxycarbofuran)	0.1 ppm (carcass fat basis)
Meat and meat poultry	Edifenphos	0.02 ppm (carcass fat basis)

Meat and meat poultry	Its oxygen analogue and their sulphoxides and sulphones expressed as fenthion)	0.02 ppm (carcass fat basis
Meat and meat poultry	Fenvalerate	1.0 ppm (carcass fat basis)
Meat and meat poultry	chlorfenvinphos	0.2 ppm
Meat and meat poultry	Chlorpyrifos	0.1 ppm
Meat and meat poultry	2,4 D	0.05 ppm
Meat and meat poultry	Residues to be determined as Ethion and its oxygen analogue expressed as Ethio	0.2 ppm (carcass fat basis
Meat and meat poultry	Monocrothphos	0.02 ppm
Meat and meat poultry	Trichlorfon	0.1 ppm
Meat and meat poultry	Benomyl	0.1 ppm( Carcas fat basis)
Meat and meat poultry	Edifenphos	0.1 ppm (carcass fat basis
Meat and meat poultry	Fenthion (sum of fenthion, its oxygen analogue and their sulphoxides and sulphones expressed as fenthion	2.00 ppm (carcass fat basis)
Meat and meat poultry	Fenvalerate	0.1 ppm (carcass fat basis
Meat and meat poultry	Phenthoate	0.05 ppm (carcass fat basis
	Sulphoxides and sulphones expressed as phorate	0.05 ppm (carcass fat basis
	Pirimiphos-methyl	0.05 ppm (carcass fat basis

### (C) Irradiations

Meat and meat products including chicken	Irradiation	2.5 (kgy) min limit 4.0 (kgy) max limit
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#### Annex 8.2:

#### Microbiological Limits for Ready to Cook & Ready to Eat Poultry, Mutton and Beef Products

Tests	Unit of Measurement	Ready to Cook Products (Poultry/Mutton/Beef)	Ready to eat products (Poultry/Mutton/Bee
TPC	CFU/g or cm <sup>2</sup> *	<1000000	<50000
<i>Staph. aureus</i>	CFU/g or cm <sup>2</sup> *	<1000	<100
<i>E. coli</i>	CFU/g or cm <sup>2</sup> *	<100	<10
<i>E. coli</i> O157	CFU/25 g	Absent	Absent
<i>Coliform/fecal coliform</i>	CFU/g or cm <sup>2</sup> *	<1000	<200
<i>Salmonella</i>	CFU/25 g	Absent	Absent
<i>Listeria monocytogenese</i>	CFU/25 g	GMP/FSMS	Absent

<i>Campylobacter</i>	CFU/25 g	Absent	Absent
<i>Bacillus cereus</i>	CFU/g or cm <sup>2</sup> *	<1000	<100
<i>Clostridium perfringens</i>	CFU/g or cm <sup>2</sup> *	<1000	<10
Yeast/mould	CFU/g or cm <sup>2</sup> *	<10000	<100

GMP is good manufacturing practices,

FSMS is food safety management system

(\*): Limit/ cm<sup>2</sup> in case of red meat only

## Chapter 9

### 9.0 Fish and Fish Products and Sea Foods Including Molluscs, Crustaceans, and Echinoderms

This broad category is comprised of aquatic vertebrates, invertebrates, mollusks, crustaceans and echinoderms. Among them, fish shall be any edible and wholesome part of any marine or fresh water halal animal other than a mammal that is commonly used for human consumption. Fish is further categorized as fresh fish and various processed fish products. Fish products may be treated with coatings, such as glazes and spice rubs, prior to marketing to the consumer (e.g. glazed frozen fish fillets). For all the products of this category, standing Codex Alimentarius Commission Standards shall be consulted for conformance where applicable.

**9.1. Fresh Fish and Fish Products, Including Molluscs, Crustaceans, and Echinoderms:** The term “fresh” refers to fish and fish products, sea food (Halal only) that are untreated except for refrigeration, storage on ice, or freezing upon catching at sea or in lakes or other bodies of water in order to prevent decomposition and spoilage.

#### 9.1.1. Fresh Fish

Fresh fish includes fresh whale meat, cod, salmon, trout, tilapia, rahu, fresh fish roe etc for which standards have been prescribed.

##### 9.1.1.1 Sensory Parameters of Fresh Fish Gills:

- Gills: Shall range from bright red to dark red color. Brownish to black coloration of gills is not acceptable.
- Eyes: Should be sparkling; opaque and sunken eyes are not acceptable as these are signs of freshness loss in fish.
- Flesh: There must be bounciness in flesh of the fish.
- Skin & mucus: Scales should be intact with skin.

##### 9.1.1.2 Odor and Flavor

- Fish affected by persistent and distinct objectionable odors or flavors is not acceptable as these are the characteristics of decomposition, rancidity or feed.

##### 9.1.1.3 Flesh Abnormalities

A sample unit (5% of sample by weight) affected by excessive gelatinous condition of the flesh is with pasty texture resulting from parasitic infestation is not acceptable.

##### 9.1.1.4 Moisture

Maximum allowable moisture percentage in any individual fillet or a sample is 83%.

##### 9.1.1.5 Glazing

If glazed, the water used for glazing or preparing glazing solutions shall be of potable quality or shall be clean sea-water. Potable water shall be fresh-water fit for human consumption. Standards of potable water shall not be less than those as mentioned in the updated these regulations or as contained in the latest edition of the WHO "international guidelines for drinking water quality". Clean sea-water is sea-water which meets the same microbiological standards as potable water and is free from objectionable substances.

**Glazing Percentage:** There must not be more than 10 % of glazing on any product being sold or imported on total weight basis of product.

#### **9.1.1.6 Determination of Net Weight of Products Covered by Glaze**

The net weight (exclusive of packaging material) of each sample unit representing a lot shall be determined in the frozen state. Where the food has been glazed, the declaration of net contents of the food shall be exclusive of the glaze. As soon as the package is removed from frozen temperature storage, it must be opened immediately and the contents placed under a gentle spray of cold water until all ice glaze that can be seen or felt is removed. Remove adhering water by the use of standard paper towel and weigh the product.

#### **9.1.1.7 Bones (in Packs Designated Boneless)**

More than one bone per kg of product greater or equal to 10 mm in length, or greater or equal to 1 mm in diameter; a bone less than or equal to 5 mm in length, is not considered a defect if its diameter is not more than 2 mm. the foot of a bone (where it has been attached to the vertebra) shall be disregarded if its width is less than or equal to 2 mm, or if it can easily be stripped off with a fingernail.

**9.1.2. Fresh Molluscs, Crustaceans and Echinoderms:** Includes fresh shrimp, clams, crabs, lobster, prawn etc. For which standards have been provided in the annexure (9.1).

#### **9.2. Processed Fish and Fish Products, Including Molluscs, Crustaceans, and Echinoderms:**

This category refers to fish and fish products that are frozen and may require further cooking, as well as ready-to - eat cooked, smoked, dried, fermented, and salted products.

##### **(a) Prepared Fish**

Fish product prepared from fish, cured, pickled, salted or smoked fish, whether whole or comminuted, cooked, dried or uncooked and may be canned. Prepared fish may contain flavour enhancer and permitted food additives.

##### **(b) Fish Product**

Shall be any product prepared from fish and includes the food for which standards (Annexure-9.1) are prescribed in these regulations.

#### **9.2.1. Frozen Fish, Fish Fillets, and Fish Products, Including Molluscs, Crustaceans, and Echinoderms**

Fresh, including partially cooked, fish subjected to freezing or quick-freezing at sea and on land for further processing. Examples include: frozen or deep frozen clams, cod fillets, crab, finfish, haddock, hake, lobster, minced fish, prawns and shrimp; frozen fish roe; frozen surimi; and frozen whale meat.

##### **9.2.1.1 Frozen Fish and sea food products**

It shall be the fish and sea foods that for a continuous period have been maintained in a wholesome condition at a temperature below minus 18°C and had not been thawed before use.

#### **Thawing of Frozen Products:**

- (a) Frozen products should be thawed in refrigerator/microwave/convection oven or under running potable water well before cooking.
- (b) Only required portion of the food should be thawed at a time.
- (c) Thawed products should be used immediately and not refrozen or kept in chiller.

#### 9.2.1.1.1 Frozen Shrimps or Prawns

Means the product prepared from fresh shrimps of sound quality belonging to penaeidae, pandalidae, crangonidae, palaeomonidae, solenoceridae, aristeidae and sergestidae families. The product shall not contain a mixture of genera but may contain mixture of species of same genus with similar sensory properties. The product may be peeled or unpeeled, raw or cooked, the product may be glazed with water. The product shall conform to the following requirements:

Characteristics	Requirements in Raw Product	Requirement in Cooked Product
Total volatile base (Nitrogen)	Not more than 30 mg/100 gm	Absent in 25gm

#### 9.2.1.1.2 Frozen Lobsters

Means the product prepared from fresh lobsters of sound quality belonging to the genus homarus of the family nephropidae and from the families palinuridae and scyllaridae. The product shall not be a mixture of different species. The product may be raw or cooked. The product may be glazed with water. The product shall conform to the following requirements:

Characteristics	Requirements in Raw Product
Total volatile base (Nitrogen)	Not more than 30 mg/100 gm

#### 9.2.1.1.3 Frozen squid and parts of squid

Means the product prepared from fresh squid of sound quality belonging to squid species of Loliginidae, Ommastrephidae, Onychoteuthidae and Thysanoteuthidae families. The product may be glazed with water. No food additive is allowed in this product. The product shall conform to the following requirements:-

Characteristics	Requirements in Raw Product
Total Volatile Base (Nitrogen)	Not more than 30 mg/100 g

#### 9.2.1.1.4 Frozen Fish Products

Means the product prepared from fresh fish of good quality. The product may be with or without head from which viscera or other organs have been completely or partially removed. The product may be glazed with water. The products shall conform to the following requirements:

Characteristics	Requirements in Raw Product
Total volatile base (nitrogen)	Not more than 30 mg/100 gm
Histamine	Not more than 20 mg / 100gm

#### 9.2.1.1.5 Frozen Fish Fillets or Quick Frozen Blocks or Minced Fish Flesh or Mixtures Thereof

These are products obtained from fresh wholesome fish of any species or mixtures of species with similar sensory properties. Fillets may be pieces of irregular size and shape with or without skin. Minced fish flesh consists of particles of skeletal muscle” and is free from bones, viscera and skin. Quick frozen blocks & fillet shall be prepared from fillets or minced flesh of sound fish which are of a quality fit to be sold fresh for human consumption. Quick frozen blocks are rectangular or other uniformly shaped masses of cohering fish fillets, minced fish or a mixture thereof, which are suitable for human consumption, comprising:

- (i) a single specie; or
- (ii) a mixture of species with similar sensory characteristics.

The product may be glazed with water as per standards provided in these regulations. The products shall conform to the following requirement:

Characteristics	Requirements in Raw Product
Total volatile base (nitrogen)	Not more than 30 mg/100 gm
Histamine	Not more than 20 mg / 100gm

\*Note: All frozen fish types/products shall be frozen in an appropriate equipment quickly to minus -18°C or colder. The product shall be kept deep frozen so as to maintain the quality during transportation, storage and sale. The entire operation including processing and packaging shall ensure minimum dehydration and oxidation. The product may contain permitted food additives. The product shall conform to the microbiological requirements (Annexure-9.1). The products shall be free from any foreign matter and objectionable odour/ flavour.

#### 9.2.1.1.6 Chilled Fish

Chilled fish shall be fish, which has been maintained in a wholesome condition at a temperature between 0°C to 5°C during transportation, storage and display at outlets in retail and wholesale markets.

**9.2.2. Frozen Battered Fish, Fish Fillets and Fish Products, Including Molluscs, Crustaceans, and Echinoderms:** Uncooked product prepared from fish or fish portions, with dressing in eggs and bread crumbs or batter. Examples include: frozen raw breaded or batter-coated shrimp; and frozen or quick-frozen breaded or battercoated fish fillets, fish portions and fish sticks (fish fingers).

**9.2.3. Frozen minced and creamed fish products, including molluscs, crustaceans, and echinoderms:**

Uncooked product prepared from minced fish pieces in cream-type sauce.

**9.2.4. Cooked and/or fried fish and fish products, including molluscs, crustaceans, and echinoderms:**

Includes all ready-to-eat cooked products as described in the sub-categories.

##### 9.2.4.1. Cooked fish and fish products

Cooked products include steamed, boiled or any other cooking method except frying. The fish may be whole, in portions or comminuted. Examples include: fish sausage; cooked fish products boiled down in

soy sauce; cooked surimi product; crab-flavoured cooked product; cooked fish roe; cooked surimi; cooked, tube-shaped surimi product; and cooked fish and lobster paste.

#### **9.2.4.1.1 Fish Paste**

Cooked products include steamed, boiled or any other cooking method except frying the fish may be whole, in portions or comminuted. Examples include: fish sausage; cooked fish products boiled down in soy sauce; cooked surimi product; crab-flavoured cooked product; cooked fish roe; cooked surimi; cooked, tube-shaped surimi product; and cooked fish and lobster paste.

#### **9.2.4.1.2 Fish Sauce**

Shall be the fish product in the form of liquid prepared from fresh fish, other than shell-fish, with salt fermentation. It shall contain not less than:

- (i) 15 percent of salt; and
- (ii) Not less than 5 percent of protein;
- (iii) May contain other food; and
- (iv) Shall be clean and wholesome and shall not contain other extraneous matter.
- (v) Fish sauce may contain permitted preservative, caramel as a coloring substance and permitted flavouring enhancer.

#### **9.2.4.2. Cooked molluscs, crustaceans, and echinoderms**

Cooked products include steamed, boiled or any other cooking method except frying, examples include: cooked shrimp; brown shrimp, clams and crabs.

#### **9.2.4.3. Fried Fish and Fish Products, Including Molluscs, Crustaceans, and Echinoderms**

**9.2.4.3.1** Ready-to-eat products prepared from fish or fish portions, with or without further dressing in eggs and bread crumbs or batter, that are fried, baked, roasted or barbecued, and then packaged or canned with or without sauce or oil, examples include: ready-to-eat fried surimi, calamari, rahu, tilapia and fried soft-shell crabs.

**9.2.4.3.2** Fried fish/fried fish coated with gram flour, means the fish free from fins, head, neck, viscera, extraneous matter and fried in edible frying vegetable oil except palm oil, palmolein. In the case of coated with gram flour paste (basin) the fish shall be not less than 85 percent.

#### **9.2.5. Smoked, Dried, Fermented, and/or Salted Fish and Fish Products, Including Molluscs, Crustaceans, and Echinoderms**

##### **9.2.5.1 Smoked Fish**

Smoked fish shall be fish product that is prepared from cured, pickled or salted fish that has been maintained in a wholesome condition, with or without the addition of salt and subjected to the action of smoke derived from wood that is free from paint or timber preservative and/or treated with permitted synthetic smoke preparations. Smoked fish are usually prepared from fresh deep frozen or frozen fish that are dried directly or after boiling, with or without salting, by exposing the fish to freshly-generated sawdust smoke.

Product	Preservative	Limit
Smoked fish in wrappers	Sorbic acid	only wrappers may be impregnated with sorbic acid



#### 9.2.5.2 Dried Prepared Fish

Dried prepared fish shall be fish product prepared by drying fish that has been treated with or without addition of other foods. It shall be dried under natural/artificially induced conditions. Dried fish are prepared by exposing the fish to sunlight or drying directly or after boiling in a special installation; the fish may be salted prior to drying. Salted fish are either rubbed with salt or placed in a salt solution. This manufacturing process is different from marinated and pickled fish.

#### 9.2.5.3 Cured Fish

Cured fish is prepared by salting and then smoking fish. Examples include: salted shrimp; dried and salted species of the Gadidae species; smoked or salted fish paste and fish roe; cured and smoked salmon; dried shellfish and boiled, dried fish etc.

#### 9.2.5.4 Fish, Dried, Unsalted or Salted

Fish shall be bled, gutted, beheaded, split or filleted and washed. The fish shall be fully saturated with salt (heavy salted) or partially saturated to a salt content not less than 10 percent by weight of the salted fish which has been dried. The product shall be free from foreign matter, objectionable odour and flavour. The product may contain permitted food additives. The product shall conform to the prescribed microbiological requirements. The products shall conform to the following requirements:

The following requirements shall be fulfilled:

- (i) The fish shall be supplied in such species, forms, types and varieties which are halal and fit for human consumption.
- (ii) The fish shall be supplied, filleted, split, chunked or in such other form as may be required by the purchaser.
- (iii) All fish in these standards shall be cured, dried, handled and delivered under sanitary conditions. in accordance with good commercial practice.
- (iv) All fish in these standards shall be sound, wholesome and in every way fit for human consumption.
- (v) All fish in these standards shall be properly processed and thoroughly washed before curing.
- (vi) Dried fish shall be of good quality.
- (vii) No colouring matter shall be used and no method of presentation and publicity concerning the material shall be made in a manner likely to mislead the purchaser or consumer as to the true nature of composition of the material as a whole.
- (viii) Salt used for salting purposes shall conform to the standard of common salt prescribed in these regulations.
- (ix) The product shall conform to the following specifications:

Characteristics	Requirements
Moisture	Not more than 16.0 percent
Water activity at 25°C	<0.78
Ash insoluble in HCl on dry basis	Not more than 1.0 percent
Salt (as NaCl) in case of salted product	Not less than 10.0 percent and Not more than 15.0 percent

### 9.3. Semi-preserved Fish and Fish Products, Including Molluscs, Crustaceans, and Echinoderms

Includes products treated by methods such as marinating, pickling and partial cooking that have a limited shelf life.

### **9.3.1. Fish and Fish Products, Including Molluscs, Crustaceans, and Echinoderms, Marinated and/or in Jelly**

Marinated products are manufactured by soaking the fish in vinegar or wine with or without added salt and spices. They are packaged in jars or cans and have a limited shelf life. Products in jelly may be manufactured by tenderizing fish products by cooking or steaming, adding vinegar or wine, salt and preservatives, and solidifying in a jelly. Examples include: “rollmops” (a type of marinated herring) etc.

### **9.3.2. Fish and Fish Products, Including Molluscs, Crustaceans, and Echinoderms, Pickled and/or in Brine**

**9.3.2.1** Pickled products are sometimes considered a type of marinated product. Pickling results from the treatment of the fish with a salt and vinegar solution. Examples include: different types of oriental pickled products: soy sauce- pickled fish, vinegar-pickled fish, pickled whale meat, pickled herring etc.

**9.3.2.2** Cured, pickled fish, shall be fish product prepared from cooked or uncooked fish that has been treated with salt, sugar, vinegar or spices. It may contain permitted flavour enhancer and ascorbic acid, sodium ascorbate, isoascorbate, isoascorbic acid or sodium isoascorbate as permitted food conditioner.

### **9.3.3 Salmon Substitutes, Caviar, and other Fish Roe Products**

Roe is usually produced by washing, salting and allowing toripen until transparent. The roe is then packaged in glass or other suitable containers. The term “caviar” refers only to the roe of the sturgeon species. Caviar substitutes are made of roe of various sea and freshwater fish (e.g. cod and herring) that are salted, spiced, dyed and may be treated with a preservative. Examples include: salted salmon roe, processed, salted salmon roe, cod roe, salted cod roe etc. Occasionally, roe may be pasteurized since it is a fully preserved product.

### **9.3.4. Semi-preserved Fish and Fish Products, Including Molluscs, Crustaceans, and Echinoderms (e.g. Fish Paste).Excluding above Categories**

Examples include fish or crustacean pates and traditional oriental fish paste. The latter is produced from fresh fish or the residue from fish sauce production, which is combined with other ingredients such as wheat flour, bran, rice or soybeans. The product may be further fermented. Cooked fish or crustacean pastes (surimi-like products) are found in above described categories.

### **9.4. Fully Preserved, Including Canned or Fermented Fish and Fish Products, Including Molluscs, Crustaceans, and Echinoderms**

Products with extended shelf-life, manufactured by pasteurizing or steam retorting and packaging in vacuum-sealed air-tight containers to ensure sterility. Products may be packed in their own juice or in added oil or sauce, this category excludes fully cooked products. Examples include: canned tuna, clams, crab, fish roe and sardines; heat- pasteurized surimi etc.

#### **9.4.1 Canned Fish**

Canned fish shall be fish or prepared fish packed in clean containers that are hermetically sealed and processed by heat to ensure preservation. It may contain condiments, water, brine, sauce and edible oils. Canned fish shall contain not less than 55 percent of fish. The fish product shall be free from head, tail and viscera. The packing medium and other ingredients used shall be of food grade quality. The products shall conform to the following requirements:

Characteristics	Requirements
Histamine content	Not more than 20 gm/100 gm
Total volatile base (nitrogen)	Not more than 30mg/ 100gm

#### 9.4.2 Canned Shrimp

Canned shrimp means the product prepared from fresh shrimp of sound quality from any combination of species of families Penaeidae, Pandalidae, Crangonidae and Palaemonidae from which heads, shell and antenna have been removed. The product may be in the form of peeled shrimps which have been headed and peeled without removal of the dorsal tract or cleaned and deveined, shrimps in which the back is cut open after peeling and dorsal tract has been removed up to the last segment next to the tail or broken shrimps consisting of pieces of peeled shrimp of less than four segments with or without the vein removed. The packing medium and other ingredients shall be of food grade quality. The products shall conform to the following requirements:

Characteristics	Requirements
Total volatile base (nitrogen)	Not more than 30 gm/100 gm
Acidity in brine expressed as citric acid	Not more than 0.2 mg/ 100gm

#### 9.4.3 Canned Sardines or Sardine Type Products

Means, the product prepared from fresh or frozen fish belonging to *Sardinia pilchardus*, *Sardinia melanostictus*, *Neopilina chardus*, *Locellatus sagax*, *Caeruleus*, *Sardinia aurita*, *Brasilien*, *Sisimaderen*, *Sisilongice*, *Psilgibbosace*, *lupeaharengus*, *Sprattus sprattus*, *Hyper tophusvittatus*, *Nematolo saviaminghi*, *Etrumeustes*, *Ethmediummaculatus*, *Engranulis anchoita* / *mordax* / *ringens* and *Opisthone maoglinum*. The product shall be free from head and gills. It may be free from scales and or tail. The fish may be eviscerated. If eviscerated, it shall be practically free from visceral parts other than roe milt or kidney. If ungutted it shall be practically free from undigested feed or used feed. The product shall be packed in any suitable medium. The packing medium and all other ingredients shall be of food grade quality. The products shall also conform to the following requirements:

Characteristics	Requirements
Histamine content	Not more than 20 gm/100 gm
Total volatile base (nitrogen)	Not more than 30mg/ 100gm

#### 9.4.4 Canned Salmon

Canned salmon means the product prepared from fresh fish of sound quality belonging to any of the species of *Salmo salar* or *Oncorhynchus nerka*, *kisutchilts*, *Chawytscha* / *gorboscha* / *ketax* and *Masou* species. The product shall be free from head, viscera, fins and tails. The product shall be packed in any suitable medium. The packing medium and all other ingredients shall be of food grade quality. No food additive is allowed in this product. The product shall conform to the following requirement.

Characteristics	Requirements
Total volatile base (nitrogen)	Not more than 30mg/ 100gm

#### 9.4.5 Canned Crab Meat

Canned crab meat means the product prepared from live crabs of sound quality from any of the edible species of the Suborder branchyura or the Order decapoda and all species of the family lithodiadae. The product shall be prepared singly or in combination from the leg, claw, body and shoulder meat from which the shell has been removed. The product shall be packed in any suitable medium. The packing medium and all other ingredients shall be of food grade quality. The products shall conform to the following requirements:

Characteristics	Requirements
Total volatile base (nitrogen)	Not more than 30 gm/100 gm
Acidity in brine expressed as citric acid	Not less than 0.06 percent and not more than 0.2 percent

#### 9.4.6 Canned Tuna and Bonito

Canned tuna and bonito means the product prepared from fresh fish of sound quality belonging to *Thunnusalalunga* / *albacareslatlanticus* *Lobessulmaccoyiil* *Thynnusltongoe*, *Euthynnu* *Saffinislalleteratusl* *Jinlatus/sardachilentis/Orienlalislsarda* and *Katsuwonuspelamis* (syn *Euthynnuspelamis*) species. The product may be in the form of segments with or without skin, chunks, flakes or grated / shredded particles. The product shall be packed in any suitable medium. The packing medium and all other ingredients shall be of food grade quality. The products shall conform to the following requirements:

Characteristics	Requirements
Histamine content	Not more than 20 gm/100 gm
Total volatile base (nitrogen)	Not more than 30mg/ 100gm

**Note (i):** All the canned fish types/products shall be packed in hermetically sealed clean and sound containers and subjected to adequate heat treatment followed by rapid cooling to ensure commercial sterility. The container shall be free from rust and mechanical defects. The container shall not show any change on incubation at 37°C for 7 days. The final product shall be free from foreign matter, objectionable odour or flavour. The products may contain permitted food additives. The product shall conform to the microbiological requirements.

**Note(ii):** Without prejudice to the standards laid down, whenever water is used in the manufacture or preparation of any article of food, such water shall be free from micro-organisms likely to cause disease and also free from chemical constituents which may impair health.

### 9.5 Transportation

Vehicles should be designed and constructed such that walls, floors and ceilings, where appropriate, are made of a suitable corrosion-resistant material with smooth, non-absorbent surfaces. floors should be adequately drained. Where appropriate with chilling equipment to maintain chilled fish or shellfish during

transportation to a temperature as close as possible to 0°C or, for frozen fish, shellfish and their products, to maintain a temperature of –18 °C or colder (except for brine frozen fish Intended for canning which may be transported at -9 °C or colder); So that live fish and shellfish are transported at temperatures tolerable for the species to provide the fish or shellfish with protection against contamination, exposure to extreme temperatures and the drying effects of the sun or wind and to permit the free flow of chilled air around the load when fitted with mechanical refrigeration means.

#### **Annexure-9.1a**

##### **Contaminants or Toxins**

<b>Product</b>	<b>Contaminant</b>	<b>Maximum Level</b>
Canned fish	Lead	2.0 ppm
All sea foods	Mercury (calculated as the element)	0.20 ppm
All sea foods	Arsenic	76 ppm
All sea food	Chromium	12 ppm
Canned fish	Tin	200 ppm
All sea food	Cadmium	0.3 ppm

#### **Annexure-9.1(b)**

##### **Contaminants or Toxins**

<b>Type</b>	<b>Insecticides</b>	<b>Level</b>
Fish	Carbaryl	0.2 ppm
Fish	DDT (The limits apply to DDT, DDT and DDE singly or in any combination)	7.0 ppm
Fish	Endosulfan (residues are measured and reported as total of endosulfan a and b and endosulfan sulphate)	0.2 ppm
Fish	Hexachlorocycle hexane and its isomers (alpha, beta, gamma & delta)	0.25 ppm

#### **Annexure-9.1(c)**

##### **Contaminants or Toxins**

<b>Type</b>	<b>Antibiotics</b>	<b>Level</b>
	Tetracycline	0.1 ppm

Fish	<b>Oxytetracycline</b>	0.1 ppm
	<b>Trimethoprim</b>	0.05 ppm
	<b>Oxolinic acid</b>	0.3 ppm
	<b>Histamine</b>	20 mg/100 gm

#### Annexure-9.1(d)

#### Levels of Irradiation

Type of Sea Food	Level
Fresh sea foods	1.0 kgy (min)
	3.0 kgy (max)
Frozen sea foods	4.0 kgy (min)
	6.0 kgy (max)
Dried sea foods	0.25 kgy (min)
	1.0 kgy (max)

Only the use of the following additives is permitted

Sr No	Additive Name	Maximum Level in Product
1	Sodium dihydrogen phosphate	2200 mg/kg as phosphorus, singly or in combination
2	Disodium hydrogen phosphate	
3	Trisodium phosphate	
4	Potassium dihydrogen phosphate	
5	Dipotassium hydrogen phosphate	
6	Tripotassium phosphate	
7	Calcium dihydrogen phosphate	
8	Calcium hydrogen phosphate	
9	Tricalcium phosphate	
10	Disodium diphosphate	
11	Trisodium diphosphate	
12	Tetrasodium diphosphate	
13	Tetrapotassium diphosphate	
14	Calcium dihydrogen diphosphate	
15	Pentasodium triphosphate	
16	Pentapotassium triphosphate	
17	Sodium polyphosphate	
18	Potassium polyphosphate	
19	Ammonium polyphosphate	
20	Sodium calcium polyphosphate	
21	Calcium polyphosphate	
22	Bone phosphate	

### 9.1(e) Antioxidants

Sr. No.	Name of Additives	Maximum Level (mg/kg)
1	Ascorbic acid	1 mg/kg
2	Sodium ascorbate	1 mg/kg
3	Potassium ascorbate	1 mg/kg
4	Ascorbyl palmitate	1 g/kg
5	Total Volatile Base	Not more than 30 mg/100 gm (nitrogen)

### Annexure-9.1(f)

### COLORS (Fresh Fish)

Sr No	Type of Sea Food	Levels
1	Caramel III - ammonia caramel	30000 ppm
2	Brilliant blue FCF	300 ppm
3	Carotenes, beta, vegetable	100 ppm
4	Carotenes,	300 ppm
5	Indigotine (indigo carmine)	300 ppm

### Annexure-9.1(g)

### Fish Safety Levels

Sr. No	Product	Level to Take legal Action
1	Ready-to-eat fishery products (minimal cooking by consumer)	<i>Listeria monocytogenes</i> - presence of organism in 25 gram sample
2	All fish	<i>Salmonella</i> spp. - presence of organism in 25 gram sample
3	All fish	1. <i>Staphylococcus aureus</i> positive for staphylococcal enterotoxin or 2. <i>Staphylococcus aureus</i> - level 4 equal to or greater than 10 /g (mpn)
4	Ready-to-eat fishery products (minimal cooking by consumer)	<i>Vibrio cholerae</i> - presence of toxigenic o1 or o139 or non-o1 and non-o139 in 25 gram sample
5	Ready-to-eat fishery products (minimal cooking by consumer)	<i>Vibrio parahaemolyticus</i> - levels equal to or greater than $1 \times 10^4$ /g (kanagawa positive or negative).
6	Post-harvest processed clams, mussels, oysters, and whole and roe-on scallops, fresh or frozen,	<i>Vibrio parahaemolyticus</i> - levels less than 30/g (mpn)

	that make a label claim of “processed to reduce vibrio para haemolyticus to non-detectable levels	
7	Cooked ready-to-eat fishery products (minimalcooking by consumer)	<i>Vibrio vulnificus</i> - presence of organism.
8	Post-harvest processed clams, mussels, oysters, and whole and roe-on scallops, fresh or frozen, that make a label claim of “processed to reduce vibrio vulnificus to non-detectable levels	<i>Vibrio vulnificus</i> - levels less than 30/g (mpn).
9	All fish	<i>Clostridium botulinum</i> 1. Presence of viable spores or vegetative cells in products that will support their growth; or 2. Presence of toxin.
10	Clams, oysters, mussels, and whole and roe-on scallops, fresh or frozen	1. <i>E. coli</i> or fecal coliform - 1 or more of 5 subs exceeding MPN of 330/100 g or 2 or more exceeding 230/100 g; 2. APC - 1 or more of 5 subs exceeding 1,500,000/g or 2 or more exceeding 500,000/g
11	Tuna, mahi-mahi, and related fish	Histamine - 500 ppm based on toxicity; 50 ppm defect action level
12	All fish	Polychlorinated biphenyls 1 (PCBS) - 2.0 ppm (edible portion)
13	Finfish and shellfish	Aldrin and dieldrin - 0.3 ppm (edible portion)
14	Oysters	Carbaryl1 - 0.25 ppm
15	All fish	Chlordane - 0.3 ppm (edible portion)
16	All fish	Chlordecone - 0.4 ppm crabmeat and 0.3 ppm in other fish (edible portion)
17	All fish	DDT, TDE, and DDE - 5.0 ppm (Edible portion)
18	Farm-raised,freshwater fish	Diuron and its matabolites - 2.0 ppm
19	All fish	Endothall and its monomethyl ester - 0.1 ppm
20	All fish	Heptachlor and heptachlor epoxide - 0.3 ppm (edible portion)
21	All fish	Mirex - 0.1 ppm (edible portion)
22	All fish	Diquat - 0.1 ppm
23	Finfish and crayfish	Fluridone - 0.5 ppm
24	Finfish	Glyphosate - 0.25 ppm
25	Shellfish	Glyphosate - 3.0 ppm
26	Finfish	Simazine and its metabolites - 12 ppm
27	All fish	2,4-D - 1.0 ppm
28	Channel catfish and freshwater-reared salmonids	Florfenicol - 1.0 ppm (muscle tissue)
29	Finfish and lobster	Oxytetracycline - 2.0 ppm (muscle tissue)
30	Trout	Sulfamerazine - no residue



		permitted
31	Salmonids and catfish	Sulfadimethoxine/ormetoprim combination - 0.1 ppm for each drug (edible tissue
32	All fish	Drugs prohibited for extra-label use in animals - no residue permitted: chloramphenicol; clenbuterol; diethylstilbestrol (des); dimetridazole, ipronidazole, and other nitroimidazoles; furazolidone, nitrofurazone, and other nitrofurans; fluoroquinilones; glycopeptides.
33	All fish	Methylmercury - 1.0 ppm
34	All fish	Paralytic shellfish poisoning - 0.8 ppm (80µg/100g) saxitoxin equivalent
35	Clams, mussels, oysters, and whole and roe-on scallops, fresh, frozen, or canned	Neurotoxic shellfish poisoning - 0.8 ppm (20 mouse units/100 g)brevetoxin-2 equivalent
36	Clams, mussels, oysters, and whole and roe-on scallops, fresh, frozen, or canned	Diarrhetic shellfish poisoning - 0.2 ppm okadaic acid plus 35-methyl okadaic acid (DTX 1)
37	All fish	Amnesic shellfish poisoning - 20 ppm domoic acid, except in the viscera of dungeness crab, where 30 ppm is permitted
38	All fish	Ciguatera fish poisoning - 0.01 ppb ctx equivalent for pacific ciguatoxin and 0.1 ppb CTX equivalent for caribbean ciguatoxin
39	All fish	Hard or sharp foreign object - generally 0.3 (7 mm) to 1.0 (25 mm) in length

#### ANNEX-9.1(h)

Category	Food	Microbial Limits									
		TPC (g)	Staph. aureus (g)	Salmonella (25g)	E. Coli (g)	O157(12	E. Coli (g)	Coliform (g)	Listeria monocyt	Clostridium perfringens	V. parahaemolyticus
Fish and											

N/A	<100	N/A	N/A
Absent	Absent	Absent	Absent
Absent	Absent	Absent	Absent
<1000	<10	<10	<10
Absent	Absent	Absent	Absent
<100	<200	<200	<200
Absent	Absent	Absent	Absent
<100	<10	<10	<10
Absent	Absent	Absent	Absent
<1000	<100	<1000	<100
<500000	<500000	<500000	<500000
Fish Raw	Fish/Products Cooked	Oysters/crabs etc.raw	Oyster/crababs etc Cooked

## **Chapter 10**

Rotten eggs as well as hatchery eggs are strictly banned for storage. Also the usage and preparation of any other food ingredient from rotten eggs and hatchery eggs is strictly prohibited. These rotten eggs and hatchery eggs shall be disposed of by incineration.

### **10.0 Eggs and Egg Products / Egg and Egg Products**

#### **Definitions**

##### **Breaking**

The process of intentionally cracking the egg shell and separating its pieces to remove the egg contents.

##### **Breeding Flock**

A group of birds kept for the purpose of production of the laying flock.

##### **Broken/Leaker Egg**

An egg showing breaks of both the shell and the membrane, resulting in the exposure of its contents.

##### **Candling**

Examining the interior condition of an egg and the integrity of the shell by rotating or causing the egg to rotate in front of or over a light source that illuminates the contents of the egg.

##### **Cracked Egg**

An egg with a damaged shell, but with intact membrane.

##### **Dirty Egg**

An egg with foreign matter on the shell surface, including egg yolk, manure or soil.

##### **Domesticated Birds**

Members of the class aves that are kept for the production of eggs intended for human consumption.

##### **Egg Laying Establishment**

The facilities and the surrounding area where primary production of eggs takes place.

##### **Incubator Egg**

An egg that has been placed in an incubator.

##### **Microbiocidal Treatment**

Is a control measure that practically eliminates the number of micro-organisms, including pathogenic micro-organisms present in a food or reduces them to a level at which they do not constitute a health hazard.

##### **Table Egg**

An egg destined to be sold to the end consumer in its shell and without having received any treatment significantly modifying its properties.

## **10.1 Fresh Eggs**

Shell egg (or egg) means the egg of the domesticated chicken. "Egg product" means all, or a portion of, the contents found inside eggs separated from the shell and pasteurized in a food processing plant, with or without added ingredients, intended for human consumption, such as dried, frozen or liquid eggs. These regulations apply to hen egg and egg products to be used in the food industry for human consumption. These products may be in whole egg form or in the dried, liquid or frozen form.

### **(i) Whole Egg**

The homogeneous product obtained from the complete contents of broken out hens eggs-in-shell, in accordance with good manufacturing practice.

### **(ii) Egg Yolk**

The homogeneous product produced from the separation of the yolk of broken out hens-eggs-in-shell, in accordance with good manufacturing practice.

### **(iii) Egg Albumen**

The homogeneous product obtained from the separation of the white of broken out hens eggs-in-shell, in accordance with good manufacturing practice.

## **10.2 Egg Products**

### **10.2.1 Liquid Egg Products**

The liquid product obtained from whole egg and/or egg yolk and/or egg albumen without the addition or removal of water.

### **10.2.2 Frozen Egg Products**

A Product obtained from a liquid egg product which has been subjected to a freezing or quick-freezing process, including deep freezing, and maintained in the frozen condition.

### **10.2.3 Dried and/or Heat Coagulated Egg Products**

A product obtained from a liquid egg product from which water has been removed by a drying process to give a powdered or granular product.

## **10.3 Preserved Eggs, Including Alkaline, Salted, and Canned Eggs**

### **(a) Shell Egg (egg) Requirements**

(i) Eggs must be transported within a system which avoids excessive temperature fluctuations and where the temperature does not exceed 25°C. Eggs must be sold under a "best before" date to ensure high quality and that consumers receive accurate and relevant information. It is recommended that eggs on catering premises, processing industry, outlets etc. should be stored in a below 25°C, with appropriate storage information being included on egg packs.

(ii) Shell must be clean to slightly stained and unbroken;

(iii) Egg white must be clear and reasonably firm;

(iv) Egg yolk outline shall be well defined and free from defects;

- (v) Retailers must ensure that eggs be stored in their outer boxes, prepacks or egg trays in a clean, dry place away from strong smelling foods and possible contaminants;
- (vi) Must not be stored or displayed near to heat sources or direct sunlight.
- (vii) Be isolated from any pre-cooked or raw foods.

## **(b) Egg Products Requirements**

- (i) Raw material requirements for egg products
- (ii) Eggs obtained from other species (e.g. duck, geese, turkeys, guinea fowls or quail) must not be mixed with chicken egg products that are being processed for human consumption.
- (iii) Unhatched eggs from incubators and cracked eggs (i.e. where both the shell and membrane are broken) must not be used for the production of egg products or used for human consumption and must be destroyed in the hatcheries.
- (iv) Eggs for the product development for human consumption must not be broken by centrifuging or crushing. Egg white obtained from centrifuging empty shells or from shell conveyors must not be used for human consumption. Shells and membranes must be kept out of the products. Shell eggs must be stored in cool conditions at a constant temperature of below 20°C and processed within seven days of receipt.
- (v) Eggs held below 8°C throughout the production / distribution chain may be processed within eight weeks.
- (vi) Containers of shell eggs arriving at the processing plant must be clearly labeled to give the name of the farm or packing station and the date of packing. The date of receipt at the processing plant must be marked on these containers. Raw liquid egg products arriving from outside the plant must carry traceability information stating date of breaking.
- (vii) Where liquid egg is brought in from a packer or from another processing plant it must either have been deep frozen or chilled to a temperature of not more than 4°C at the place where the eggs were broken. Chilled egg liquid must be processed within 72 hours following the day of cracking the eggs.

## **(c) Egg Products Requirements**

- (i) Egg products must be homogeneous, fit for human consumption, practically free from shell fragments, and foreign matter. The taste, colour and odour of egg products shall be natural and characteristic of each product. In the case of dried egg products these shall be easily reconstituted.

### **Annex: 10.1** **Composition of Egg and Egg Products** **(a) Liquid /Frozen Egg Products**

<b>Products</b>	<b>Total solids% (min)</b>	<b>Total Fat % (min)</b>	<b>pH</b>	<b>Protein % (N*6.25)</b>	<b>Ash%</b>
Whole egg	23	9.8	7.2-7.7	11	0.96-1.02
Egg White Albumen	10.5		8.5 Min		
Egg Yolk	43	25	6-6.7	15	

## b. Spray Dried Egg Products

Products	Total solids% (min)	Total Fat % (min)	pH	Protein % (N*6.25)	Ash%	Free fatty acid (max)
Whole egg	95	39	7.5	45	4.2-5.0	3.5
Egg White Albumen	92	0.4	4	75		
Egg Yolk	95	56	6	33	3.9-4.3	3.5

## Annex: 10.2

### Microbiological Limits for Eggs (Including Pasteurized Eggs) and Egg Products

Test	Unit	Limit
Total plate count	CFU/g or mL	<5000
<i>Staph. aureus</i>	CFU/g or mL	<100
<i>E. coli</i> O 157	CFU/g or mL	Absent
<i>Salmonella</i>	CFU/25g or mL	Absent
<i>E. coli</i>	CFU/25g or mL	<10
<i>Coliform</i>	CFU/g or mL	<100
<i>Listeria monocytogenese</i>	CFU/25g or mL	Absent
Yeast/mold	CFU/g or mL	<100

## Chapter 11

### 11.0 Sweeteners, Including Honey

#### 11.1 Refined and Raw Sugars

Refined sugar, Means the colourless odourless, crystalline or white powder product, obtained from the juice of the sugar cane or of the sugar beet. It shall be free from dirt, filth, iron filings and added colouring matter. It shall also conform to the following standards, namely;

(i)	Moisture	Not more than 0.5 percent by weight (at 105°C±1 for 3 hours)
(ii)	Sucrose	Not less than 99.5 percent by weight
(iii)	Extraneous matter	Not exceed 0.1 percent by weight

**11.1.1 White Sugar, Dextrose Anhydrous, Dextrose Monohydrate, Fructose** (a) Dextrose monohydrate is purified and crystallized d-glucose containing one molecule of water of crystallization and it shall conform to the following standards:

(i)	D- glucose content	not less than 99.5 percent on dry basis and total solid contents not less than 98 percent
(ii)	Sulphated ash	Not more than 0.25 percent (on dry basis)
(iii)	Sulphur dioxide	Not more than 15 mg/kg

(b) Fructose” means the purified and crystallised D-fructose

It shall conform to the following standards;

(i)	D- fructose	Not less than 98 percent
(ii)	Specific rotation	( $\alpha_d^{20}$ )-89.0 to -93.50
(iii)	Sulphated ash	Not more than 0.1 percent
(iv)	Colour	Not more than 30 ICUMSA units
(v)	pH of 10 percent	4.5 to 7.0 percent solution of fructose

**11.1.2 Powdered Sugar,** Powdered Dextrose Icing sugar means the sugar manufactured by pulverizing refined sugar or vacuum pan sugar with or without edible starch and without addition of anti-caking agents. Edible starch if added shall be uniformly extended in the sugar. It shall be in the form of white powder free from dust, or any other extraneous matter. It shall conform to the following standards:

(i)	Moisture	Not more than 0.80 percent
(ii)	Starch	Not more than 2.0 percent
(iii)	Total starch and sucrose	Not less than 99 percent
(iv)	Reducing sugar	Not more than 0.06 percent
(v)	Sugar as sucrose	Not less than 96 percent
(vi)	Sulphur dioxide	Not more than 15 mg/g

#### 11.1.3 Soft White Sugar, Soft Brown Sugar, Glucose Syrup, Dried Glucose Syrup, Raw Cane Sugar

##### 11.1.3.1 Dried Glucose Syrup Used to Manufacture Sugar Confectionery

###### (a)Dried Glucose Syrup

Means the material in the form of coarse or fine, white to creamish white powder, sweet to taste, bland in flavour and somewhat hygroscopic. It shall be free from fermentation, evidence of mould growth, dirt or other extraneous matter or added sweetening or flavouring agent. It shall also not contain any added natural or synthetic food colour. It shall conform to the following standards:

(i)	Total solid content	Not less than 97.0 percent
(ii)	Reducing sugar	Not less than 20 percent
(iii)	Total sulphated ash	Not more than 1.0 percent
(iv)	Suphur dioxide	Not more than 20 mg/kg

#### 11.1.3.2 Glucose Syrup Used to Manufacture Sugar Confectionery

(a) Liquid glucose/corn syrup/glucose syrup means a purified viscous syrup of nutritive saccharides obtained from the hydrolysis of starch. It shall be colourless odourless, and sweet in taste. It shall conform to the following standards:

(i)	Refractive index at 20°C	Not less than 1.490
(ii)	Total solids content.	Not less than 70%
(iii)	Reducing sugar content (dextrose equivalent).	Not less than 20%
(iv)	Sulphated ash	Not more than 1.0%
(v)	Acidity on 5.0gm	Not more Than 0.5 Ml of Deci normal of alkali required
(vi)	Sulphur dioxide	Not more than 20 mg/kg

(b) High fructose/ glucose syrup means the bright, clear viscous colourless syrup produced by controlled hydrolysis and isomerization of starch. it shall conform to the following standards:

(i)	Water content	Range 20 to 25%
(ii)	Fructose (on dry basis)	Not less than 40%
(iii)	Dextrose (anhydrous)	Not less than 50% (on dry basis)
(iv)	Oligosaccharides	Not less than 5.0% (on dry basis)
(v)	Sulphated ash	Not more than 0.1%
(vi)	pH 4.5	Not more than 0.1%

(c) Cube sugar means the sugar in the form of cube or cuboids blocks manufactured from refined crystlised sugar. It shall be white in colour, free from dirt and other extraneous contamination. It shall conform to the following standards: -

(i)	Moisture	Not more than 0.25 percent
(ii)	Sucrose	Not less than 99.5 percent
(iii)	Total sulphated ash	Not more than 0.03 percent
(iv)	Sulphur dioxide	Not more than 70 mg/kg

#### 11.2 Brown Sugar Excluding Products of Food Category 11.1.3

Fine grain purified moist sugar, light to dark brown in colour with sucrose plus invert sugar contents of not less than 88 percent. It shall conform the following standards:

(i)	Sucrose plus invert sugar	Not less than 88 percent
(ii)	Sulphated ash	Not more than 3.5 percent
(iii)	Sulphur dioxide	Not more than 20mg/kg



### 11.3 Sugar Solutions and Syrups, also (Partially) Inverted, Including Treacle and Molasses, Excluding Products of Food Category 11.1.3

(a) Cane molasses means the mother liquor left over after the recovery of sugar in the crystallization process. It shall be dark colour, viscous syrupy liquid having a characteristic odour. It shall conform to the following standards:

(i) Density, in degrees brix at 27.5 °C	Not less than 80
(ii) Ash, sulphated, per cent by mass (calculated for 1000 brix).	Not more than 17.5
(iii) Total reducing matter as invert sugar percent by mass	Not less than 40

### 11.4 Other Sugars and Syrups (e.g. Xylose, Maple Syrup, Sugar Toppings)

“Golden syrup” means the syrup obtained by inversion of sugar. it shall be golden yellow in colour, pleasant in taste and free from any crystallization. It shall conform to the following standards:

(i) Moisture	Not more than 25 percent
(ii) Total ash	Not more than 2.5 percent
(iii) Total sugar as invert sugar	Not less than 72 percent
(iv) Sulphur dioxide content	Not more than 70 mg/kg

Sodium bicarbonate, if used, for clarification purposes, shall be of food grade quality.

### 11.5 Honey

The nectar and saccharide exudation of plants gathered, modified and stored by the honey bee, and shall not contain added sugar or glucose or starch syrup or artificial sweetening substances or any other added substance. It shall conform to the following standards:

(i) Moisture	Not more than 20 percent
(ii) Ash	Not more than 0.5 percent
(iii) Sucrose	Not more than 5 percent
(iv) Fiehe's test	Negative
(v) Acidity (expressed as formic acid)	Not more than 0.2 percent by mass
(vi) Reducing sugars	Not less than 65 percent

It shall not have any objectionable flavour, aroma or taint absorbed from foreign matter during the processing and storage. It shall not have begun to ferment or be effervescent and shall be levorotatory. Diastase activity & hydroxymethyl furfural content:

(i) Determined after processing and blending diastase figure on go the scale	Not less than 8 DN units
(ii) Hydroxymethyl furfural content	Not more than 80 mg/kg
(iii) Honey with low natural enzyme content: -e.g. Citrus, diastase content on gothe scale	Not less than 3
(iv) Specific gravity at 27°C	Not less than 1.35
(v) Fructose-glucose ratio	Not less than 0.95 percent by mass

(If Fiehe's test is positive, and hydroxy methyl furfural (HMF) content is more than 80 milligram/kilogram then fructose glucose ratio should be 1.0 or more.)

Honey which has been filtered in such a way as to result in the significant removal of pollen shall be designated filtered honey and shall be labeled likewise.

## 11.6 Table-Top Sweeteners

### (a) Desi Sugar

Means sugar obtained from sugarcane juice by open pan process. It may be crystalline or in powder form. It shall be free from dirt, filth, iron filings, objectionable flavour and added colouring matter. It shall also conform to the following standards, namely:

(i)	Moisture	Not more than 1.5 percent by weight
(ii)	Sucrose	Not less than 93 percent by weight
(iii)	Ash insoluble	Not more than 0.7 percent by weight in dilute HCl
(iv)	Extraneous matter	Not more than 0.25 percent by weight
(v)	Calcium oxide	Not more than 50 (mg/100gms)

### (b) Gur/Shakar

Means the product obtained by boiling or processing juice pressed out of sugar cane or sugar-beet. It shall be free from substances deleterious to health and shall conform to the following standards on dry weight basis:

(i)	Moisture	Not more than 10 percent
(ii)	Sucrose	Not less than 80 percent
(iii)	Matter insoluble in water/extraneous matter	Not more than 2.0 percent
(iv)	Total ash	Not more than 5.0 percent
(v)	Ash insoluble in HCL	Not more than 0.5 percent

The product may contain permitted food additives. Sodium bicarbonate, if used for clarification purposes, shall be of food grade quality.

### (c) Batasha/Makhana

Shall contain not more than 0.7 percent of ash and shall have a clean appearance and free from added colouring matter.

### (d) Misri

Means the product made in the form of candy obtained from any kind of sugar. It shall be free from dirt, filth, iron filings and added colouring matter. Extraneous matter shall not exceed 0.1 percent by weight. It shall also conform to the following standards:

(i)	Total ash	Not more than 0.4 percent
(ii)	Sucrose	Not less than 98.0 percent

### (e) Khandsari Sugar

Obtained from sugarcane juice by open pan process may be of two varieties, namely;

(i) khandsari sugar desi; and

(ii) khandsari sugar (sulphur) also known as "sulphur sugar". It may be crystalline or in powder form. It shall be free from dirt, filth, iron filings and added colouring matter. Extraneous matter shall not exceed 0.25 percent by weight. It may contain sodium bicarbonate (food grade). It shall also conform to the following standards, namely:

	<b>Khandsari Sugar (Sulphur Sugar)</b>	<b>Khandsari Sugar (Desi Sugar)</b>
(i) Moisture	Not more than 1.5% by weight	Not more than 1.5% by weight

(ii) Ash insoluble in dilute HCl	Not more than 0.5% by weight	Not more than 0.7% by weight
(iii) Sucrose	Not less than 96.5% by weight	Not less than 93.0% by weight
(iv) Extraneous matter	Not more than 0.25 percent by weight	
(v) Calcium oxide	Not more than 100 (mg/100gms)	
(vi) Sulphur dioxide	Not more than 70 mg/kg	

Note: Khandsari sugar can be distinguished from plantation white sugar on the following characteristics, namely:

	<b>Khandsari Sugar (Desi Sugar)</b>	<b>Khandsari Sugar (Sulphur Sugar)</b>
(i) Conductivity at 30°C (104 mho/cm <sup>2</sup> )	100-300 in 5% solution	Not more than 100 in 5% solution (104 mho/cm <sup>2</sup> ) at 30°C
(ii) Calcium oxide mg/100g	Not more than 100	Not more than 50(mg/100gms)

#### **(f) Bura Sugar**

Means the fine grain size product made out of any kind of sugar. It shall be free from dirt, filth, iron filing and added colouring matter. Extraneous matter shall not exceed 0.1 percent by weight. It shall also conform to the following standards, namely:

(i) sucrose	Not less than 90.0 percent by weight
(ii) Moisture	<9%
(iii) Extraneous matter	<0.1%
(iv) Ash insoluble in dilute HCl	Not more than 0.7 percent by weight

The product may contain permitted food additives.

### **11.7. High-Intensity Sweeteners/ Artificial Sweetening Agent**

#### **(i) Saccharin (chemical formula: C<sub>7</sub>H<sub>4</sub>NNaO<sub>3</sub>S.2H<sub>2</sub>O , molecular weight= 241.2)**

The product may contain permitted food additives (2 –sulphobenzoic imide) it shall contain not less than 99 percent saccharin on a water free basis. Sodium saccharin (sodium salt of 2-sulphobenzoic imide) shall contain not less than 99 percent and not more than 01 percent of anhydrous sodium saccharin on a water free basis.

Saccharin and sodium salt of saccharin shall be soluble at 200C in 1.5 parts water and 50 percent of alcohol (95 percent) and shall contain not more than 0.1 ppm of arsenic and 0.5 ppm of lead. The melting point of saccharin shall be between 226°C to 230°C. The loss on dry at 105°C shall not be less than 12.0 percent and not more than 16 percent.

The material shall satisfy the tests of identification and shall conform to the limit tests free from acids or alkali, ammonium compounds and parasulfa molybenzoate.

**(ii) Aspartame** (Aspartyl phenyl alanine methyl ester C<sub>14</sub>H<sub>18</sub>N<sub>2</sub>O<sub>5</sub> ) and molecular weight as 294.31 shall be material, which is slightly soluble in water and methanol. It shall contain not less than 98 percent and not more than 102 percent of aspartame on dried basis. It shall contain not more than 3 ppm of arsenic and 10ppm of lead. The loss on drying of the material at 105°C for 4 hours shall not be more than 4.3 percent.

The sulphated ash shall not be more than 0.2 percent. It shall not contain more than 1 percent of diketo-peperzine.

### (iii) Acesulfame Potassium

Commonly known as acesulfame-k, having empirical formula  $C_4H_4KNO_4S$ , molecular weight as 201.24. It shall be the material which is odourless, white crystalline powder having intensely sweet taste and is very slightly soluble in ethanol but freely soluble in water. It shall contain not less than 99 percent and not more than 101 percent of acesulfame potassium on water free basis. It shall not contain more than 3 ppm, fluoride. Heavy metals content shall not be more than 10 ppm. Maximum permitted portion of acesulfame potassium to low energy soft drink shall be not more than 600 mg/kg.

### (iv) Sucralose

Chemical name - 1, 6-dichloro-1, 6-dideoxy-d-fructofuranosyl-4-chloro-4-deoxy- $\alpha$ -D-galactopyranoside; Synonyms - 4, 1 '6'-trichlorogalactosucrose; INS 955 Chemical formula -  $C_{12}H_{19}Cl_3O_8$  Molecular weight- 397.64 It shall be white to off-white, odourless, crystalline powder, having a sweet taste.

It shall be freely soluble in water, in methanol and in alcohol and slightly soluble in ethyl acetate. It shall contain not less than 98.0% and not more than 102.0% of  $C_{12}H_{19}Cl_3O_8$  calculated on anhydrous basis. It shall not contain more than 3ppm of arsenic (As) and 10ppm or heavy metals (as Pb). It shall not contain more than 0.1% of methanol. Residue on ignition shall not be more than 0.7% and water not more than 0.2%.

## 11.8. Other Food Product Ingredients

### 11.8.1. Silver leaf (Chandi-Ka-Warq):

It shall be in the form of sheets, free from creases and folds and shall contain not less than 99.9 percent of silver.

### 11.8.2. Pan Masala

Pan masala means the food generally taken as such or in conjunction with pan, it may contain; Betel nut, lime, coconut, catechu, saffron, cardamom, dry fruits, mulethi, sabnarmusa, other aromatic herbs and spices, sugar, glycerine (Halal), glucose, permitted natural colours, menthol and permitted flavours. It shall be free from added coal tar colouring matter and any other ingredient injurious to health. It shall also conform to the following standards namely:

- |  |   |
|--|---|
| (i) Total ash                                      | Not more than 8.0 percent by weight<br>(on dry basis) |
| (ii) Ash insoluble in dilute<br>HCL (on dry basis) | Not more than 0.5 percent by weight                   |

## 11.9. Relative Humidity (RH) of Sweet Products

Products	RH (%)
Wafer cookies, roasted nuts	15-25
Hard candy, hard toffee, butter scotch	25-30
Hard caramels, soft cookies, milk crumb	35-50
Gums, pastilles, low moisture jellies, soft caramels	50-60
Soft marsh mallows, fruit jellies, fondants	65-75
Soft fondants, pastes, fudge	60-65

Dark chocolates	85
Milk chocolates	78

## 11.10. Permitted Levels of Artificial Sweeteners

### 11.10.1 Saccharin Sodium

Products	Maximum Limit (ppm)
Pan masala	8000 ppm
Pan flavouring material	8.0 percent
Chocolate (white, milk, plain, composite and filled)	500 ppm
Sugar based/ sugar free confectionery	3000 ppm
Milk chocolates	78ppm

### 11.10.2 Aspartame (Methylester)

Chocolate (white, milk, plain, composite and filled)	2000 ppm
Sugar based/ sugar free confectionery	10000 ppm
Chewing gum/ bubble gum	10000 ppm

### 11.10.3 Acesulfame Potassium

Chocolate (white, milk, plain, composite and filled)	500 ppm
Sugar based/ sugar free confectionery	3500 ppm
Chewing gum/ bubble gum	5000 ppm
Ready to serve tea and coffee based beverages	600 ppm
Ice lollies / ice candy	800 ppm

### 11.10.4 Sucralose

Sweetened butter milk	300 ppm
Ice cream	400 ppm
Jam, jellies and marmalades	450 ppm
Frozen fruit	150 ppm
Chutney	800 ppm
Confectionery	1500 ppm
Lozenges	1500 ppm

### 11.11 Additives

Sorbic acid including sodium, and potassium salts	1500 ppm
Sequestering and buffering agents (calcium gluconate)	2500 ppm

### 11.12. Contaminants and Toxins product

	Contaminant	Maximum Level
(a) Anhydrous dextrose and dextrose monohydrate, refined white sugar (sulphated ash content not exceeding 0.03 percent)	Lead	0.5 ppm
(b) Ice-cream, iced lollies and	Lead	1.0 ppm

similar frozen confections

(c) All types of sugar, sugar syrup, invert sugar and direct consumption coloured sugars with sulphated ash content exceeding 1.0 percent	Lead	5.0 ppm
(d) Raw sugars except those sold for direct consumption or used for manufacturing purpose other than the manufacture of refined sugar.	Lead	5.0 ppm
(e) Edible molasses, caramel liquid and solid glucose and starch conversion products with a sulphated ash content exceeding 1.0 percent	Lead	5.0 ppm
(f) Cocoa powder on the dry fat free substance	Lead	5.0 ppm
(g) Food colouring other than caramel solid pectin	Lead	10 ppm
(h) Hard boiled sugar confectionery	Lead	50.0 ppm
(i) Chicory-dried or roasted, coffee beans, flavorings, pectin (liquid)	Copper	20.0 ppm
(j) Colouring (dry colouring matter)	Copper	30.0 ppm
(k) Cocoa powder on the fat free substance	Copper	70.0 ppm
(l) Pectin-solid	Copper	300.0 ppm
(m) Hard boiled sugar confectionery	Copper	5.0 ppm
(n) Hard boiled sugar confectionery	Tin	5.0 ppm
(o) Hard boiled sugar confectionery	Zinc	5.0 ppm
(p) All confectionary	Mercury	1.0 ppm
(q) All foods	Mercury	0.25 ppm

Note: microbes generally do not grow in sweeteners.

### Microbiological Limits for Honey

Sulphite reducing Clostridium	<100 per gram
Mould/yeast	<200 per gram

## Chapter 12

### 12.1 Salts, Spices, Soups, Salads and Protein Products

**Sale of loose spices shall be banned from January 2019 onwards.**

#### 12.1.1 Salt

“Salt, common salt, edible common salt, namak”, means a crystallized solid, white or pale, pink in colour free from visible contamination with clay, grit and other extraneous impurities. Regular salt - min 99 % preferably pass through 1.00 mm sieve. The salt shall be white and 10 grams of salt in 100mL of water shall give a colourless solution, having a neutral reaction. It shall conform to the following standards:

(i)	Matter insoluble in water (dry wt. basis)	Not more than 0.5%
(ii)	Matter soluble in water (dry wt. basis)	Not more other than 2.0% other than sodium chloride w/w
(iii)	Sodium chloride (dry wt. basis)	Not less than 98%

#### 12.1.2 Iodised Salt

Iodised salt means a crystallized solid, white in colour (pale or pink) free from visible contamination with clay, grit and other extraneous impurities. The following requirements shall be fulfilled.

For iodization of salt potassium iodide, potassium iodate and calcium iodate shall be added and shall contain a stabilizer consisting of 0.1 percent sodium thiosulphate ( $\text{Na}_2\text{S}_2\text{O}_3$ ) or other stabilizing agents, which are equally effective on preventing the loss of iodine. The table salt shall comply with the following chemical analysis.

(i) Moisture	Not more than 3 percent
(ii) Sodium chloride (dry wt. basis)	Not less than 98 percent
(iii) Matter insoluble in water (dry wt. basis)	Not more than 0.5 percent

#### **Iodine content at:**

30.0 - 50.0 mg/kg

(i) Calcium (as Ca)	Not more than 0.5 percent
(ii) Sulphate (as $\text{SO}_4$ )	Not more than 0.5 percent
(iii) Carbonate (as $\text{Na}_2\text{CO}_3$ )	Not more than 0.1 percent
(iv) Copper	Not more than 2 ppm
(v) Lead	Not more than 2 ppm
(vi) Cadmium	Not more than 0.5 ppm
(vii) Mercury	Not more than 0.1 ppm
(viii) Arsenic (as $\text{As}_2\text{O}_3$ )	Not more than 0.5 ppm

The label on the package shall specify the license number of the manufacturer, date of manufacture and the caution to store the salt in covered container in a cool dry place after opening the package.

### **12.1.3 Monosodium Glutamate**

May be added to foods subject to good manufacturing practices (GMP). It shall not be added to any food for use by infant below twelve months and in the following foods.

- (i) Milk and milk products including buttermilk
- (ii) Fermented and renneted milk products (plain) excluding dairy based drink  
Pasteurized cream
- (iii) Sterilized, UHT, whipping or whipped and reduced fat creams
- (iv) Fats and oils, foodgrains, pulses, oil seeds and grounded/powdered food grains
- (v) Butter and concentrated butter
- (vi) Fresh fruit
- (vii) Surface treated fruit
- (viii) Peeled or cut fruit
- (ix) Fresh vegetables
- (x) Frozen vegetables
- (xi) Whole, broken or flaked grains, including rice
- (xii) Flours of cereals, pulses and starches
- (xiii) Pastas and noodles (only dried products)
- (xiv) Fresh meat, poultry and game, whole pieces or cuts or comminuted
- (xv) Fresh fish and fish products, including mollusks, crustaceans and echinoderms
- (xvi) Processed fish and fish products, including mollusks, crustaceans and echinoderms
- (xvii) Fresh eggs, liquid egg products, frozen egg products
- (xviii) White and semi-white sugar (sucrose and saccharose, fructose, glucose (dextrose), xylose, sugar solutions and syrups, also (partially) inverted sugars, including molasses, treacle and sugar toppings Other sugars and syrups (e.g. brown sugar and maple syrup)
- (xix) Honey
- (xx) Salt
- (xxi) Herbs, spices and condiments, seasoning (including salt substitutes) except seasoning for noodles and pastas, meat tenderizers, onion salt, garlic salt, oriental seasoning mix, topping to sprinkle on rice, fermented soybean paste, yeast
- (xxii) Infant food and infant milk substitute including infant formulae and follow-on formulate Foods for young children (weaning foods)
- (xxiii) Natural mineral water and packaged drinking water Concentrates (liquid and solid) for fruit juices
- (xxiv) Canned or bottled (pasteurized) fruit nectar
- (xxv) Concentrates (liquid and solid) for fruit juices
- (xxvi) Canned or bottled (pasteurized) fruit nectar
- (xxvii) Coffee and coffee substitutes, tea and herbal infusions
- (xxviii) Wines
- (xxix) Margarine
- (xxx) Fat spread



- (xxxi) Fruits and vegetables products except table olives (not more than 500ppm)
- Carbonated water
- (xxxii) Baking powder Arrowroot
- (xxxiii) Sago
- (xxxiv) Plantation sugar, jaggery and bura Ice-candies
- (xxxv) Ice cream and frozen desserts
- (xxxvi) Cocoa butter
- (xxxvii) Malted milk food and milk based foods
- (xxxviii) Bread
- (xxxix) Vinegar
- (xl) Sugar confectionery, toffee, lozenges Chocolate
- (xli) Pan Masala
- (xlii) Alcoholic beverages

**Note:** Earlier, as per Punjab Pure Food Regulations, 2017, Monosodium glutamate was allowed with a labeling restriction and a limitation that it was not allowed in fifty two (52) categories of food mentioned in Chapter 12, whereas, from the date of enactment of these Regulations, with reference to the Part (IV) (11.1), pertaining to a table of Strictly Prohibited substances, Monosodium Glutamate is banned for production, storage, sale and for utilization in any food whatsoever.

## 12.2. Herbs and Spices

Spice means any aromatic vegetable substance in the whole, broken or ground form, except for those substances which have been traditionally regarded as food, such as onions; whose significant function in food is seasoning rather than nutritional. Spice shall be the sound leaves, flowers, buds, fruits, seeds, barks or rhizomes of plants, that are suitable for use as condiments for imparting any flavour or aroma to food and from which the oil or other flavouring constituent naturally present has not been removed and includes the food for which a standard is prescribed in these regulations. The spices shall be free from living insects, insect fragments and rodent contamination visible to the eyes. Spice may be whole or ground and free from added starch.

### (a) Haldi or Turmeric (Whole)

Means the dried rhizome or bulbous roots of the plant of genus *Curcuma longa* L and includes turmeric in whatsoever form. It shall be free from damage by insects, pests, lead chromate. It shall be free from any added colouring matters. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The product shall be free from lead chromate added starch and any other extraneous colouring matter. It shall conform to the following standards:

- |                |                           |
|----------------|---------------------------|
| (i) Moisture   | Not more than 12 percent  |
| (ii) Total Ash | Not more than 9.0 percent |

### (b) Haldi or Turmeric (Powder)

Means the powder obtained by gridding the dried rhizomes or bulbous roots of the plant of genus *Curcuma longa* L. It shall be free from lead chromate. It shall be free from any added colouring matter. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The powder shall be free from any added colouring matter including lead chromate and morphologically extraneous matter including foreign starch. It shall conform to the following standards:

- |                                   |                                     |
|-----------------------------------|-------------------------------------|
| (i) Moisture                      | Not more than 10.0 percent          |
| (ii) Total ash                    | Not more than 9.0 percent           |
| (iii) Ash insoluble in HCl        | Not more than 1.5 percent           |
| (iv) Colouring power expressed as | Not less than 2.0 percent by weight |

curcuminoid content on dry basis

(v) Total starch Not more than 60.0 percent by weight

Means the dried sound fruit of *Cumin cyminum*. It shall have the characteristic colour and aroma; and shall not have any exhausted seed. It shall be free from any added colouring matter. It shall conform to the following standards:

(i) Moisture	Not more than 10.0 percent
(ii) Total ash	Not more than 9.0 percent
(iii) Ash insoluble in HCl	Not more than 1.5 percent
(iv) Volatile essential oil	Not less than 3 percent

**(d) Zeera Siah Cumin (Powder)**

Means the powder obtained from the dried seeds of the *Cumin cyminum*. It shall have the characteristic aroma. It shall be free from any added colouring matter. It shall conform to the following standards:

**(e) Zeera Sufaid (Whole)**

Means the dried sound fruit of *Carum carvi*. It shall have the characteristic colour and aroma; and shall not have any exhausted seeds. It shall be free from any added colouring matter. It shall conform to the following standards:

(i) Moisture	Not more than 10 percent
(ii) Total ash on dry basis	Not more than 8.0 percent
(iii) Ash insoluble in HCl	Not more than 1.5 percent
(iv) Volatile essential oil	Not less than 1.5 percent

**(f) Zeera Sufaid (Powder)**

Means the powder obtained from the dried sound fruit of *Carum carvi* (l). It shall have the characteristic aroma. It shall be free from any added colouring matter. It shall conform to the following standards:

(i) Moisture	Not more than 9.0 percent
(ii) Total Ash	Not more than 9.5 percent
(iii) Ash insoluble in HCl	Not more than 1.5 percent
(iv) Volatile essential oil	Not less than 1.5 percent
(v) Non-volatile ether extracts	Not less than 15.0 percent by weight on dry basis

**(g) Dhania or Coriander (Whole)**

Means the dried sound fruit of *Coriandrum sativum* and having the characteristic colour and aroma. It shall contain moisture not more than 10 percent. It shall conform to the following standards:

(i) Moisture	Not more than 10 percent
(ii) Total ash	Not more than 9 percent
(iii) Ash insoluble in dilute HCl	Not more than 1.5 percent

**(i) Ajwain (carom seeds)**

Means the dried sound fruit of *Carum copticum*. It shall have the characteristic colour and aroma; and shall not have any exhausted seeds. The seeds shall be free from living insects,

insect fragments and rodent contamination visible to the eyes. it shall conform to the following standards:

(i)	Moisture	Not more than 10 percent
(ii)	Total ash	Not more than 9 percent
(iii)	Ash insoluble in dilute HCl	Not more than 1.5 percent

#### **(j) Mirch or Lal Mirch or Chillies (Whole)**

Means the dried ripe sound fruit of the various species of *Capsicum*. (*Capsicum annum* and *Capsicum frutescens*). It shall be free from added colouring matter, foreign oil, sand, grit or dirt or other foreign substances or substitutes, harmful substances, mould growth and insect infestation. It shall contain moisture not more than 12 percent and non-volatile ether extract not less than 12 percent. It shall conform to the following standards:

(i)	Moisture	Not more than 12.0 percent by weight
(ii)	Total ash on dry basis	Not more than 8.0 percent by weight
(iii)	Ash insoluble in dilute HCl	Not more than 1.3 percent by weight
(iv)	Insect damaged matter	Not more than 1.0 percent by weight
(v)	Extraneous matter	Not more than 1.0 percent by weight
(vi)	Unripe and marked fruits	Not more than 2.0 percent by weight
(vii)	Broken fruits, seed & fragments	Not more than 5.0 percent by weight

#### **(k) Mirch or Lal Mirch or Chillies (Powder)**

Means the powder obtained by grinding clean dried sound chilli pods of various species of *Capsicum*. The chilli powder shall be dry, free from dirt, mould growth, insect infestation, extraneous matter, added colouring matter and flavouring matter, foreign oil, sand and grit. It shall conform to the following standards: (Any edible vegetable oil to a maximum limit of 2.0 percent by weight under a label declaration for the amount and nature of oil used).

(i)	Moisture	Not more than 10 percent
(ii)	Total Ash	Not more than 8.0 percent
(iii)	Ash insoluble in	Not more than 1.5 percent
(iv)	Non-volatile ether extract	Not less than 12 percent
(v)	Butyro refractive value at 40°C of ether extract	Not less than 69.0
(vi)	The ether extract crude fibre weight	Not more than 30.0 percent by weight
(vii)	Non-volatile ether extract on dry basis weight	Not less than 12.0 percent by weight

#### **(l) Kali Mirch or Gol Mirch, Pepper or Black Pepper (Whole)**

Means the berries of *Piper nigrum* l. brown to black in colour with wrinkled surface, having the characteristic flavour, pungent taste and free from foreign starch and other

extraneous matter, with or without the husk. It shall contain moisture not more than 10 percent. It shall conform to the following standards:

(i) Moisture	Not more than 10.0 percent by weight
(ii) Total ash on dry basis	Not more than 6.0 percent by weight
(iii) Volatile oil content on	Not less than 2.0 percent by v/w
(iv) Non-volatile ether extract	Not less than 6.0 percent by weight
(v) Peperine content	Not less than 4.0 percent by weight
(vi) Bulk density (gm/litre)	Not less than 490 gm/litre by weight

#### **(m) Kali Mirch or Gol Mirch, Pepper or Black Pepper (Powder)**

Means the powder obtained by grinding the dried sound berries of *Piper nigrum* L. and shall be free from extraneous matter and foreign starch. It shall be free from added colouring matter. It shall conform to the following standards:

(i) Moisture	Not more than 10 percent.
(ii) Total ash	Not more than 6.0 percent
(iii) Ash insoluble in HCl	Not more than 1.0 percent
(iv) Non-volatile ether extract	Not less than 6.0 percent
(v) Volatile oil	Not less than 1.75 percent
(vi) Total starch on dry basis	Not less than 30 percent
(vii) Crude fibre on dry basis	Not more than 17.5 percent by weight
(viii) Peperine content on dry basis	Not less than 4.0 percent by weight

#### **(n) White Pepper (Whole)**

Shall be the dried, mature ripe sound fruit of the plant *Piper nigrum*, from which the outer coating of the fruit has been removed shall be free from extraneous matter and foreign starch. It shall be free from any added colouring matter. It shall conform to the following standards:

(i) Moisture	Not more than 12 percent
(ii) Total ash	Not more than 3.5 percent
(iii) Ash insoluble in HCl	Not more than 0.3 percent
(iv) Non-volatile ether extract	Not less than 5.5 percent
(v) Volatile oil content on dry basis	Not less than 1.5 percent by v/w
(vi) Peperine content on dry basis	Not less than 4.0 percent by weight
(vii) Bulk density (gm/litre)	Not less than 600 percent by weight

#### **(o) White Pepper (Powder)**

Shall be the dried, mature sound ripe fruit of the plant *Piper nigrum*, from which the outer coating of the fruit has been removed. It shall be free from added colouring matter. It shall conform to the following standards:

(i) Moisture	Not more than 10 percent
(ii) Total Ash	Not more than 3.5 percent
(iii) Ash insoluble in HCl	Not more than 0.3 percent
(iv) Non-volatile ether extract	Not less than 5.5 percent
(v) Volatile oil content on dry basis	Not less than 0.7 percent by v/w
(vi) Peperine content on dry basis	Not less than 4.0 percent by weight
(vii) Crude fiber on dry basis	Not more than 6.5 percent by weight

**(p) Saunf or Fennel Fruit (Whole)**

Means the dried ripe fruit of cultivated plants of *Foeniculum vulgare*. The fruit shall be sound and free from sand, grit, and other dirt. It shall be free from any added colouring matter. It shall contain moisture not more than 12 percent and volatile oil not less than 4 percent.

**(q) Saunf or Fennel Fruit (Powder)**

Means the powder obtained by grinding the dried sound, ripe fruit of cultivated plants of *foeniculum vulgare* and shall conform to the following standards:

(i) Moisture	Not more than 10 percent
(ii) Total Ash	Not more than 9.0 percent
(iii) Ash insoluble in HCl	Not more than 2 percent
(iv) Volatile oil	Not less than 4.0 percent

**(r) Methi or Fenugreek (Whole)**

Means the dried sound ripe seeds of *trigonella Foenum-graecum*. It shall free from dust, dirt, off odours, insects, etc. It shall be free from added colouring matter. It shall conform to the following standards:

(i) Moisture	Not more than 10.0 percent by weight
(ii) Total Ash on dairy basis	Not more than 5.0 percent by weight
(iii) Ash insoluble in dilute HCl on dry basis	Not more than 1.5 percent by weight
(iv) Cold water soluble extract on dry basis	Not less than 30.0 percent by weight

**(s) Methi or Fenugreek (Powder)**

Means the powder obtained by grinding the dried ripe seeds of *Trigotnella foenum graecum*. It shall be free from added colouring matter. It shall conform to the following standards:

(i) Moisture	Not more than 9 percent
(ii) Total Ash	Not more than 7 percent
(iii) Ash insoluble in HCl	Not more than 2 percent
(iv) Water soluble extract	Not less than 30 percent

**(t) Jaifal or Nutmeg (Whole)**

Means the dried seed of the fruit of *Myristica fragrans*. It shall be sound, free from infestation and free from added colouring matter. It shall contain non-volatile ether extract not less than 25 percent. It shall contain not more than 8 percent moisture. It shall conform to the following standards:

(i) Moisture	Not more than 10.0 percent by weight
(ii) Total Ash on dairy basis	Not more than 3.0 percent by weight
(iii) Water insoluble ash on dry basis	Not more than 1.5 percent by weight
(iv) Ash insoluble in dilute HCl on dry basis	Not more than 0.5 percent by weight
(v) Volatile oil content on dry basis	Not less than 6.5 percent by v/w
(vi) Calcium expressed as calcium oxide	Not more than 0.35 percent by weight
(vii) Extraneous matter	Absent
(viii) Mace in nutmeg	Not more than 3.0 percent by weight

**(u) Jaifal or Nutmeg (Powder)**

Means the powder obtained by grinding the dried seed (Kemel) of the fruit of *Myristica fragrans*. It shall be sound and free from infestation, added colouring matter. It shall conform to the following standards:

(i) Moisture	Not more than 8.0 percent
(ii) Total ash	Not more than 5.0 percent
(iii) Ash insoluble in HCl	Not more than 0.5 percent
(iv) Non-volatile ether extract	Not less than 25.0 percent
(v) Essential volatile oil	Not less than 7 percent
(vi) Crude fibre	Not more than 10.0 percent by weight

**(v) Javitri or Mace (Whole)**

Means the dried outer coat of arillus of the fruit of *Myristica fragrans*. It shall not contain the arilus of any other variety of *Myristica nalaharica* or Fatua (bombay mace) and *Myristica argentea* (wild mace). It shall be sound and free from infestation.

It shall be free from added colouring matter. It shall contain moisture not more than 7.0 percent, crude fiber not less than 10 percent and volatile essential oil not less than 7 percent.

**(w) Javitri or Mace (Powder)**

Means the powder obtained by grinding the dried outer coat of arillus of the fruit of *Myristica fragrans*. It shall not contain the arilus of any other variety of *myristica nalaharica* or fatua (*Bombay mace*) and *Myristica argentea* (*Wild mace*). It shall conform to the following standards:

(i) Moisture	Not more than 8.0 percent
(ii) Total Ash	Not more than 3.0 percent
(iii) Ash insoluble in HCl	Not more than 1.0 percent
(iv) Non-volatile ether extract	Not less than 30.0 percent
(v) Volatile oil content on dry basis	Not less than 5.0 percent by v/w
(vi) Crude fibre	Not more than 10.0 percent by weight

**(x) Dar Chini or Cinnamon (Whole)**

Means the dried inner bark of *Cinnamomum zeylanicum*. It shall neither contain any cassia nor any foreign vegetable substance and colouring matter. It shall be free from insect damaged matter. It shall contain essential volatile oil not less than 0.7 percent and moisture not more than 12 percent.

It shall conform to the following standards:

(i) Moisture	Not more than 12.0 percent by weight
(ii) Total ash on dry basis	Not more than 7.0 percent by weight
(iii) Ash insoluble in dilute HCl on dry basis	Not more than 2.0 percent by weight
(iv) Volatile oil content on dry basis	Not less than 0.7 percent by v/w
(v) Insect damaged matter	Not more than 1.0 percent by weight
(vi) Extraneous matter	Not more than 1.0 percent by weight

**(y) Dar Chini or Cinnamon (Powder)**

Means the powder obtained by grinding the dried inner bark of *Cinnamomum zeylanicum*. It shall neither contain any cassia nor any foreign vegetable substance and colouring matter. It shall conform to the following standards:

(i) Moisture	Not more than 10 percent
(ii) Total ash	Not more than 8.0 percent
(iii) Ash insoluble in HCl	Not more than 2.0 percent
(iv) Volatile oil	Not less than 0.5 percent

**(z) Laung or Cloves (Whole)**

Means the dried, unopened flower buds of *Eugenia caryophyllus*, and free from exhausted cloves, foreign vegetable or mineral substances. The cloves (on dry basis) shall contain not less than 15.0 percent of volatile oil. It shall be free from added colouring matter. It shall contain moisture not more than 12 percent.

**(aa) Laung or Cloves (Powder)**

Means the powder obtained by grinding the dried unopened flower, buds, of *Eugenia Caryophyllus*. The cloves powder shall conform to the following standards:

(i) Moisture	Not more than 10 percent
(ii) Total Ash	Not more than 0.0 percent
(iii) Ash insoluble in HCl	Not more than 1.0 percent
(iv) Volatile oil	Not less than 16.0 percent
(v) Crude fiber	Not more than 13.0 percent by weight

**(ab) Ginger (Sonth, Adrak) (Whole)**

Means the washed and dried or the decorticated and dried rhizome of *Zingiberis officinale* and free from damaged, insects, pests. It shall be free from added colouring matter. It shall conform to the following standards:

(i) Moisture	Not more than 12.0 percent by weight
(ii) Extraneous matter	Not more than 1.0 percent by weight
(iii) Total ash on dry basis	Not more than 8.0 percent by weight
(iv) Calcium as calcium oxide on dry basis unbleached	Not more than 1.1 percent by weight
(v) Volatile oil content on dry basis	Not less than 1.5 percent by v/w
(vi) Insect damaged matter	Not more than 1.0 percent by weight

**(ac) Ginger (Sonth, Adrak) (Powder)**

Means the powder obtained by grinding ginger (*Zingiberis officinal*) whole. It shall be free from added starch. The powder shall conform to the following standard:

(i) Moisture extract	Not more than 10 percent
(ii) Total ash	Not more than 7.0 percent
(iii) Water soluble ash	Not less than 1.7 percent
(iv) Ash insoluble in HCl	Not more than 1.0 percent
(v) Cold water soluble extract	Not less than 11.4 percent
(vi) Alcohol (90 percent) soluble	Not less than 5.1 percent
(vii) Volatile oil	Not less than 1.5 percent v/w

**(ad) Ilaichi, Chhoti Ilaichi, Cardamom or Lesser Cardamom (Whole)**

Means the dried sound, nearly ripe fruit of *Electria cardamomum* (I), free from sand, earth, dirt, grit and admixture by substituted seeds. The cardamom seeds obtained from the capsules shall contain not less than 3 percent of volatile oil and shall contain moisture not more than 12 percent. It shall be free from added colouring matter

**(ae) Ilaichi, Chhoti Ilaichi, Cardamom or Lesser Cardamom (Powder)**

Means the powder obtained from the seeds separated from the capsules of *Electria cardamomum* I. It may be in the form of small pieces of the seeds or in finely ground form. It shall be free from added colouring matter, alive or dead insects. It shall conform to the following standards:

(i) Moisture	Not more than 10 percent
(ii) Total ash	Not more than 6.0 percent
(iii) Ash insoluble in HCl	Not less than 3.0 percent
(iv) Volatile oil	Not less than 3.0 percent

**(af) Ilaichi, Chhoti Ilaichi, Cardamom or Lesse Cardamom (Seeds)**

Means the seed obtained by separating the seeds from the capsules of *Elettaria cardamomum* L. The seeds shall contain not less than 3.0 percent of volatile oil. It shall be free from added colouring matter. It shall conform to the following standards:

- |   |                                      |
|---|--------------------------------------|
| (i) Moisture                            | Not more than 13.0 percent by weight |
| (ii) Total ash on dry basis             | Not more than 9.5 percent by weight  |
| (iii) Volatile oil content on dry basis | Not less than 3.5 percent by v/w     |

**(ag) Bari Ilaichi Greater Cardamom (Whole)**

Means the dried sound nearly ripe fruit of various species of genus *Amomum subulatum* roxb. It shall be free from added colouring matter, alive or added insects. It shall contain moisture not more than 12 percent and volatile essential oil not less than 1 percent.

**(ah) Bari Ilaich Greater Cardamom (Powder)**

Means the powder obtained from the seeds separated from the capsules of genus *Amomum subulatum* roxb. It may be in the form of small pieces of the seeds or in finely ground form. It shall be free from added colouring matter. It shall conform to the following standards:

- |                            |                           |
|----------------------------|---------------------------|
| (i) Moisture               | Not more than 10 percent  |
| (ii) Total ash             | Not more than 8.0 percent |
| (iii) Ash insoluble in HCl | Not more than 3.0 percent |
| (iv) Volatile oil          | Not less than 1.0 percent |

**(ai) Bari Ilaichi Greater Cardamom (Seeds)**

Means the seeds obtained by separating the seeds from the cardamom amomum capsules of genus *Amomum subulatum* roxb. The seeds shall be free from insect damaged seeds. It shall conform to the following standards:

- |  |                                      |
|--|--------------------------------------|
| (i) Moisture                                   | Not more than 12.0 percent by weight |
| (ii) Total ash on dry basis                    | Not more than 8.0 percent by weight  |
| (iii) Ash insoluble in dilute HCl on dry basis | Not more than 2.0 percent by weight  |
| (iv) Volatile oil content on dry basis         | Not less than 1.0 percent by V/W     |

**(aj) Sowa or Aniseed (Whole)**

Means the dried sound, ripe fruit of *Pimpinella anisum*, having the characteristic appearance and free from sand, earth, dirt, grit and admixture by substituted seeds. It shall be free from added colouring matter. It shall conform to the following standards:

- |  |                                      |
|--|--------------------------------------|
| (i) Moisture                                   | Not more than 12.0 percent by weight |
| (ii) Total ash on dry basis                    | Not more than 9.0 percent by weight  |
| (iii) Ash insoluble in dilute HCl on dry basis | Not more than 1.5 percent by weight  |
| (iv) Volatile oil content on dry basis         | Not less than 1.0 percent by v/w     |

**(ak) Zafran or Kesar or Saffron**

Means the dried sound stigmata and tops of style of *Crocus sativus* (L), and free from foreign colouring matter or any other foreign matter, organic or inorganic. The petroleum extract shall not be less than 5 percent. It shall conform to the following standards:

- |                              |                            |
|------------------------------|----------------------------|
| (i) Moisture                 | Not more than 10 percent   |
| (ii) Volatile oil            | Not less than 14.0 percent |
| (iii) Total ash on dry basis | Not more than 7.5 percent  |
| (iv) Aqueous extract         | Not less than 55.0 percent |



(v) Total nitrogen	Not less than 2.0 percent
(vi) Floral waste defined as yellow filaments pollen, stamens parts of ovary and other parts of flowers of <i>Crocus sativus</i> (linn).	Not more than 10.0 percent
(vii) Extraneous matter	Not more than 1.0 percent
(viii) Solubility in cold water	Not less than 65.0 percent by weight
(ix) Crude fibre on dry basis	Not more than 6.0 percent by weight
(x) Colouring strength expressed as directreading of absorbance of 440 nm on dry basis	Not less than 80.0 percent by weight
(xi) Bitterness expressed as direct reading of absorbance of picrocrocine at about 257 nm on dry basis.	Not less than 30.0 percent by weight

**(al) Khash-Khash or Poppy Seed**

Means the dried ripe sound seed from the fruit of the opium poppy, *Papaver somniferum*. The seeds may be white or grayish in colour. It shall conform to the following standards:

(i) Total ash	Not more than 8.0 percent
(ii) Oil	Not less than 40.0 percent
(iii) Harmless foreign matter etc	Not more than 2 percent

**(am) Mustard (Rai Sarson)**

Whole means the dried sound seeds of various species of genus *Brassica*. It shall be free from seeds of *Argemone maxicana linn.* the seeds shall be free from damaged and colouring matter. It shall conform to the following standards:

(i) Moisture	Not more than 10.0 percent by weight
(ii) Total ash on dry basis	Not more than 6.5 percent by weight
(iii) Ash insoluble in dilute HCl on dry basis	Not more than 1.0 percent by weight
(iv) Non volatile ether extract on dry basis	Not less than 28.0 percent by weight
(v) Volatile oil content on dry basis	Not less than 0.3 percent by v/w

**(an) Mustard or Compound Mustard or Mustard Condiment or Mustard Powder**

Means the powder obtained by grinding the dried seeds of various species of genus *Brassica* with or without amylaceous matter and with or without spices; provided that the proportion of amylaceous matter and spices, If any, shall not together exceed 20 percent. It shall yield not less than 0.35 percent of allylisothiocyanate after maceration with water for two hours at 37°C. The test for argemone oil shall be negative. It shall be free from added colouring matter. It shall conform to the following standards:

(i) Moisture	Not more than 7.0 percent
(ii) Total ash	Not more than 8.0 percent
(iii) Ash insoluble in dilute HCl	Not more than 2.0 percent
(iv) Starch	Not more than 2.5 percent
(v) Volatile oil	Not less than 0.3 percent
(vi) Non-volatile ether extracts	Not less than 28 percent
(vii) Crude fibre by weight	Not more than 8.0 percent
(viii) Test for argemone oil	Negative

**12.3. Seasonings and Condiments**

Seasoning means the product obtained from mixing a combination of spices and herbs, onion, garlic, fruits, vegetables, fats and oils, salt, sugar, milk and milk products, meat and meat products, oleoresins and aquaresins, any other food stuff, permitted flavours, colours, flavour enhancers, food conditioners and other food additives as permitted by Codex. Seasoning is a blend of food ingredients added as necessary to achieve an improvement in taste, eating quality and/or functionality of a food. It typically contains one or more herbs and/or spices and other flavour-enhancing or flavour-imparting ingredients. It shall be free from any foreign material. It shall conform to the following standards:

(i) Moisture	Not more than 10 percent
(ii) Ash insoluble in dilute HCl on salt free basis	Not more than 1.0 percent
(iii) Volatile oil	Not less than 0.25 percent
(iv) Non-volatile ether extracts	Not less than 7.5 percent
(v) Crude fiber	Not more than 15 percent

(vi) Lead

Not more than 10 ppm

**(a) Curry Powder**

Means the powder obtained from grinding clean, dried and sound spices belonging to the group of aromatic herbs and seeds such as black pepper, cinnamon, cloves, coriander, ginger, cardamom, chillies, mace, nutmeg, curry leaves, white pepper, saffron and aniseeds. It shall contain not less than 85 percent of condiments and spices and shall not contain more than 10 percent of farinaceous matter and salt. It shall be free from added starch and colouring matter. The aromatic seeds and herbs enumerated constitute the proper ingredients and not more than two or all of these may be used at the discretion of the manufacturer in the preparation of the curry powder: provided that the addition of any substances other than the aromatic seeds and herbs enumerated shall be made in lieu of, or in partial replacement of farinaceous material and/or salt. The percentage of ingredients of curry powder shall be specified on the label in the descending order. It shall conform to the following standards:

(i) Moisture	Not more than 10 percent
(ii) Ash insoluble in dilute HCl on salt free basis	Not more than 1.0 percent
(iii) Volatile oil	Not less than 0.25 percent
(iv) Non-volatile ether extracts	Not less than 7.5 percent
(v) Crude fiber	Not more than 15 percent
(vi) Lead	Not more than 10 ppm

**(b) Garam Masala/Mixed Masala (Powder)**

Means a mixture in any proportion of two or more a mixture of aromatic herbs, spices and condiments and free from salt, turmeric, coriander, ajwain, fenugreek, chillies, farinaceous matter, sand, grit, dirt and dust. It shall also not contain dried vegetable and/or fruits, oil seeds, garlic, ginger, poppy seeds, and curry leaves. The ingredients used shall be specified on the label in the descending order of the weights used. It shall be free from added colouring matter, mould growth and insect infestation.

(i) Moisture	Not more than 12 percent by weight
(ii) Volatile oil	Not less than 0.75 percent by weight
(iii) Extraneous matter	Not more than 5.0 percent by weight
(iv) Organic matter including edible seeds	Not more than 3.0 percent by weight
(v) Inorganic matter	Not more than 2.0 percent by weight

**(c) Garam Masala/Mixed Masalla (Whole).**

Means a mixture in any proportion of two or more a mixture of aromatic herbs, spices and condiments and free from salt, turmeric, coriander, ajwain, fenugreek, chillies, farinaceous matter, sand, grit, dirt and dust. It shall also not contain dried vegetable and/or fruits, oil seeds, garlic, ginger, poppy seeds, and curry leaves. The ingredients used shall be specified on the label in the descending order of the weights used. It shall be free from added colouring matter, mould growth and insect infestation.

(i) Moisture	Not more than 10 percent
(ii) Total ash	Not more than 9 percent
(iii) Ash insoluble in dilute HCl	Not more than 1.5 percent
(iv) Volatile oil	Not less than 0.75 percent

**(d) Pimento**

Means the dried sound, ripe fruit of the plant *Pimento officinalis*. It shall conform to the following standards:

(i) Moisture	Not more than 10 percent
--------------	--------------------------

(ii) Total Ash	Not more than 7.0 percent
(iii) Volatile essential oil	Not less than 2.4 percent

**(e) Dill Seed**

Means the dried sound fruit of the plant *Anethum graveolens*. It shall conform to the following standards:

(i) Total Ash	Not more than 10.0 percent
(ii) Ash insoluble in HCl	Not more than 3.0 percent
(iii) Volatile essential oil	Not less than 2.5 percent

**(f) Asafoetida (Hing or Hingra)**

Means the oleo-gum-resin obtained from the rhizome and roots of *Ferula alliaces*, *ferula rubricaulis* and other species of *Ferula*. It shall not contain any colophony resin, galbanum resin, ammoniacum resin or any other foreign resin. It shall be free from added colouring matter. It shall conform to the following standards:

(i) Total ash	Not more than 15 percent
(ii) Ash insoluble in HCl	Not more than 2.5 percent
(iii) The alcoholic extract (with 90 percent alcohol)	Not less than 12 percent
(iv) Starch	Not more than 1 percent

**Hingra** shall conform to the following standards namely

(i) Total Ash	Not more than 20 percent
(ii) Ash insoluble in HCl	Not more than 8 percent
(iii) The alcoholic extract (with 90 percent alcohol)	Not less than 50 percent
(iv) Starch	Not more than 1 percent

**(g) Dried Mango Slices**

Means the dried wholesome, edible part of raw mango fruit with or without the outer skin. It shall be free from fungus, moulds and insect infestation, rodent contamination, added colouring and flavouring matter. It shall also be free from deleterious substances injurious to health. It shall not contain any preservative except edible common salt, which may be added to the extent of 5 percent on dry basis. It shall have characteristic taste and flavour. It shall conform to the following standards:

(i) Moisture	Not more than 12 percent
(ii) Damaged slices	Not more than 5 percent
(iii) Seed coatings	Not more than 6 percent

**Explanation**

Seed coatings shall be exterior covering of the seed. Damaged slices means the slices that are eaten by weevils or other insects and includes slices internally damaged by fungus, moisture or heating.

**(h) Dried Mango Powder (Amchur)**

Means the powder obtained by grinding clean and dried mango slices having characteristic taste and flavour. It shall be free from musty, odour and objectionable flavour, rodent contamination, mould, fungus and insect infestation, extraneous matter and added colouring and flavouring matter. It shall also be free from deleterious substances, injurious to health. It shall not contain any preservative except edible common salt, which may be added to the extent of 5 percent on dry basis. It shall also conform to the following standards:

(i) Moisture	Not more than 10 percent
(ii) Total ash (salt-free-basis)	Not more than 6 percent
(iii) Ash insoluble (in dilute HCl) on salt free basis	Not more than 1.5 percent
(iv) Crude fiber	Not more than 6 percent
(v) Acidity as anhydrous tartaric acid	Not less than 12 percent and not more than 26.0 percent

**(i) Kalonji Whole**

Means the sound seeds of *Nigella sativa* L. It shall be free from added colouring matter and shall contain moisture not more than 12 percent, and volatile oil not less than 0.5 percent.

**(j) Kalonji Powder**

Means the powder obtained by grinding the dried sound seeds of *Nigella sativa* L. It shall be free from added colouring matter. It shall conform to the followings:

(i) Moisture	Not more than 10 percent
(ii) Total ash	Not more than 7.0 percent
(iii) Ash insoluble in dilute HCl	Not more than 1.5 percent
(iv) Volatile oil	Not less than 0.5 percent

**(k) Lemon Juice**

Shall be the fruit juice of mature lemon of the species citrus lemon or of hybrids of that species. It can have permitted preservatives and it shall conform to the following standards:

(i) Soluble solids	Not less than 6 g in 100 mL at 20°C
(ii) Acidity calculated as	Not less than 4 g in 100 mL at 20°C
(iii) Essential oil	Not more than 0.05 mL in 100 mL at 20°C

**(l) Natural Vinegar or Sirka**

Means a liquid derived from alcoholic and acetous fermentation of any suitable medium such as fruits, malt, molasses, sugarcane juice, etc. It shall be pleasant in taste and flavour and shall not contain.

- (i) Any mineral acid
- (ii) Lead, copper or arsenic in excess of the permitted tolerance
- (iii) Any foreign substances or colouring matters except those permitted
- (iv) Any added acetic acid

It shall conform to the following standards

(a) Acetic acid per 100 mL	Not less than 3.75 grams
(b) Total solids per 100 mL	Not less than 2 grams
(c) Total solids per 100 mL	Not less than 0.1 grams

Not more than 0.05 grams of phosphorus penta oxide and 0.04 grams of nitrogen per 100 mL.

**(m) Synthetic Vinegar**

Means the product prepared from acetic acid. It shall contain not less than 3.75 grams of acetic acid per 100 mL. It shall not contain lead, copper, arsenic in excess of permitted tolerance. It shall not contain any added colouring matter, any mineral acid and shall be colorless. It shall be distinctly labeled as "synthetic" in letters not smaller than the brand or trade name or designation and shall state on the label "prepared from acetic acid".

## **12.4. Soup, Soup Stock and Soup powder**

### **12.4.1. Soup**

Soup shall be the liquid product composed of halal healthy animal meat, fish, vegetable, cereal or any combination of these and may contain salt or any other food. It shall contain not less than 6 percent of meat or fish, where soup has been prepared from meat or fish as the case may be. It shall be free from added colouring matter and artificial flavour. It shall conform to the following standards:

- |  |                           |
|--|---------------------------|
| (i) Protein (in the case of meat or fish soup) | Not less than 1.3 percent |
|--|---------------------------|

### **12.4.2 Soup Stock**

Shall be composed of any of the ingredients of soup in liquid, dry or compacted form. It may contain sugar, spices, oleoresins and aquaresins, permitted flavouring substance, permitted flavor enhancer and permitted food conditioner. It shall be free from added colouring matter. Every package containing soup stock shall be labeled with a direction for its use.

### **12.4.3 Soup Powders**

Means the products obtained by mechanical dehydration of fresh vegetables/ fruits juice/ pulp/puree of sound vegetables / fruits and or prior concentrated, dehydrated, frozen or processed fruits & vegetables, meat, poultry and fish singly or in combination by blending with salt, permitted nutritive sweeteners, herbs, spices and condiments or any other ingredients suitable to the product, and packed suitably to prevent spoilage.

**Soup Powder shall comply with the Requirements given below**

- |                             |                                 |
|-----------------------------|---------------------------------|
| (i) Moisture                | Maximum 10 percent by weight    |
| (ii) Total soluble solids   | Maximum 5 percent by weight     |
| (iii) Yeast and mould count | Shall not be more than 100/gram |

## **12.5. Culinary Powder/ Recipe Mix**

Culinary powder /recipe mix means a culinary preparation used as an adjunct to food, prepared from whole spices and the powder obtained through grinding clean, dried and sound spices belonging to the group of aromatic herbs and seeds, dried fruits and vegetables, salt, and other ingredients appropriate to the product. It shall be free from visible mold and insects, sand and grit. The product may contain permitted food additives according to Codex and should be free from added starch and coloring matter. It shall conform to the following standards:

- |                                  |                          |
|----------------------------------|--------------------------|
| (i) Moisture                     | Not more than 10 percent |
| (ii) Ash insoluble in dilute HCl | Not more than 4 percent  |
| (iii) Crude fiber                | Not more than 15 percent |

## Annex: 12.0

### 12.0: Microbiological Limits of Spices and Herbs

Product	Total Plate Count	<i>Salmonella</i>	<i>Clostridium</i>	Coliform	<i>E. coli</i>	<i>Staph. aureus</i>	Yeast/mold
Unit	CFU/g	Per 25 grams	CFU/g	CFU/g	CFU/g	CFU/g	CFU/g
Salt	-	-	<10	-	-	Absent	-
Spices (pure)	<1000000	Absent	<100	<1000	<100	<100	<500
Spice mix	<1000000	Absent	<100	<1000	<100	<100	<500
Herbs	<1000000	Absent	<100	<1000	<100	<100	<500
Red chilies /flakes	<1000000	Absent	<100	<1000	<100	<100	<500
Soup/stocks	<50000	Absent	<10	<100	<10	<10	<100

Note: Salad dressings should be free from *listeria monocytogenes* and other pathogens.

**12.6.** Restriction on sale of loose salt, spices and sauces from January, 2019 onwards.

## Chapter 13

### 13.0 Foodstuffs Intended for Particular Nutritional Uses

#### Infant Formulae, Follow-on Formulae and Formulae for Special Medical Purposes for Infants

**Note:** For the mandatory requirements related to marketing, sale and labeling of the Baby Food mentioned in this chapter a special reference is made to the Punjab Food Authority (Baby Food) Regulations, 2018.

#### 13.1 Infant Formulae

**“Infant Formula (from birth to six months)”** means a substitute, on medical ground (s), to breast milk specially manufactured to satisfy, by itself, the nutritional requirements of infants from the birth to six (06) months of life; whereas **“Infant Formula (after six months to one year)”** means a substitute, on medical ground (s) to breast milk and/or weaning specially manufactured to satisfy, by itself, the nutritional requirements of infants after six months to one year of life.

The product shall be processed by physical means only and so packaged as to prevent spoilage and contamination under all normal conditions of handling, storage and distribution.

#### Explanation

- Only those products that comply with the criteria/provisions/standards as laid down in the Punjab Food Authority (Baby Food) Regulations, 2018, shall be accepted for marketing as infant formula.
- No product other than infant formula may be marketed or otherwise represented as suitable for satisfying by itself the nutritional requirements of infants during the first twelve (12) months of life.

##### 13.1.1 Essential Composition

Infant formula is a product based on milk of cows or other halal milch animals or a mixture thereof and/or other ingredients which have been proven to be suitable for infant feeding. The nutritional safety and adequacy of infant formula shall be scientifically demonstrated to support growth and development of infants. All ingredients and food additives shall be gluten-free. Infant formula products shall not exceed the melamine limits prescribed by Codex i.e. 1mg/Kg and other harmful substances shall also not exceed maximum limits as prescribed by Codex. Infant formula prepared ready for consumption in accordance with instructions of the manufacturer shall contain per 100 mL not less than 60 kcal (250 kJ) and not more than 70 kcal (295 kJ) of energy.

Infant formula prepared ready for consumption shall contain per 100 kcal (100 kJ) the following nutrients:

#### (a) Protein

unit	Minimum	Maximum
g/100 kcal	1.8*	3.0
g/100 kJ	0.45	0.7



\*Infant formula based on milk protein less than 1.8 g protein/ 100 kcal should be clinically evaluated.

The calculation of the protein content of the final product prepared ready for consumption should be based on N x 6.25. The protein content in formula shall be milk protein having at least whey: casein ratio of 1:1

For an equal energy value the formula must contain an available quantity of each essential and semi-essential amino acid at least equal to that as mentioned in table below (table 1):

**Table 1** Minimum level of essential and semi-essential amino acids in infant formula

Amino acids	mg/g nitrogen	mg/g protein	mg/100 kcal (mg/100 kJ)
Cysteine	131	21	38
Histidine	141	23	41
Isoleucine	319	51	92
Leucine	586	94	169
Lysine	395	63	114
Methionine	85	14	24
Phenylalanine	282	45	81
Threonine	268	43	77
Tryptophan	114	18	33
Tyrosine	259	42	75
Valine	315	50	90

For calculation purposes, the concentrations of tyrosine and phenylalanine may be added together. The concentrations of methionine and cysteine may be added together if the ratio is less than 2:1.

(vi) Isolated amino acids may be added to infant formula only to improve its nutritional value for infants. Essential and semi-essential amino acids may be added to improve protein quality, only in amounts necessary for that purpose. Only L-forms of amino acids shall be used.

## (b) Lipids

### Lipids total fat

Unit	Minimum	Maximum
g/100 kcal	4.4	6.0
g/100 kJ	1.05	1.4

Commercially hydrogenated oils & fats and the same being used for commercial hydrogenation shall not be used in infant formula. Lauric and myristic acids combined shall not exceed 20 percent of total fatty acids. The content of trans-fatty acids shall not exceed 3 percent of total fatty acids provided 100 percent milk fat is used in the formula. Plant oils and fats intended to be used in infant formula should be virtually trans fat free and the

maximum allowance level for trans fatty acids shall be proportionately decreased with increasing level of plant oils and fats in the formula. The erucic acid content shall not exceed 1 percent of total fatty acids. The total content of phospholipids should not exceed 300 mg/100 kcal (72 mg/100 kJ). The fatty acid composition of infant formula fat should also conform to the standards mentioned in the following table:

**Table 2**  
**Levels of Polyunsaturated Fatty Acids in Infant Formula**

Fatty acids	Minimum		Maximum	
	mg/100 kcal	mg/100 kJ	mg/100 kcal	mg/100 kJ
Linoleic acid	300	70	1400	330
Alpha-linolenic	50	12	N.S	N.S

**Ratio of Linoleic Acid:  $\alpha$ -linolenic Acid should be b/w 5:1 to 15:1**

**DHA & ARA**

Unit	GUL
% of fatty acids	0.5

If docosahexaenoic acid (22:6 n-3) is added to infant formula, arachidonic acid (20:4 n-6) contents should reach at least the same concentration as DHA. The content of eicosapentaenoic acid (20:5 n-3), which can occur in sources of LC-PUFA, should not exceed the content of docosahexaenoic acid

**(b) Carbohydrates**

Unit	Minimum	Maximum
g/100 kcal	9.0	14.0
g/100 kJ	2.2	3.3

**(c) Lactose and glucose**

Polymers are the preferred carbohydrates in formula based on milk protein and hydrolyzed protein. Only precooked and/or gelatinised starches gluten-free by nature may be added to infant formula up to 30 percent of total carbohydrates and up to 2 g/100 mL. Sucrose, unless needed, and the addition of fructose as an ingredient should be avoided in infant formula, because of potential life-threatening symptoms in young infants with un-recognized hereditary fructose intolerance.

**(d) Vitamins**

**(i) Vitamin A**

Unit	Minimum	Maximum
$\mu\text{g re/100 kcal}$	60	180
$\mu\text{g re/100 kJ}$	14	43

Re= retinol equivalents and 1 µg retinol equivalents = 3.33 IU vitamin A = 1 µg all-trans Retinol. Retinol contents shall be provided by preformed retinol, while any contents of carotenoids should not be included in the calculation and declaration of vitamin A activity.

**(ii) Vitamin D3**

Unit	Minimum	Maximum
µg/100 kcal	1	2.5
µg/100 kJ	0.25	0.6

Calciferol: 1 µg Calciferol = 40 IU Vitamin D

**(iii) Vitamin E**

Unit	Minimum	Maximum	Gul
mg α-te/100 <sup>7)</sup> kcal	0.5 <sup>8)</sup>	-	5
mg α-te/100 kJ	0.12 <sup>8)</sup>	-	1.2

1 mg α-TE/100 kcal (alpha-tocopherol equivalent) = 1 mg d-α-tocopherol

Vitamin E content shall be at least 0.5 mg α-TE per g PUFA, using the following factors of equivalence to adapt the minimal vitamin E content to the number of fatty acid double bonds in the formula: 0.5 mg α-te/g linoleic acid (18:2 n-6); 0.75α-TE/gα-linolenic acid (18:3 n-3); 1.0 mgα-TE/g arachidonic acid (20:4 n-6); 1.25 mg α-TE/g eicosapentaenoic acid (20:5 n-3); 1.5 mg α-TE/g docosahexaenoic acid (22:6 n-3).

**(iv) Other Vitamins should Conform to the following Standards**

Unit	Minimum	Maximum
------	---------	---------

**Vitamin K**

µg/100 kcal	4	27
µg/100 kJ	1	6.5

**Thiamin**

µg/100 kcal	60	300
µg/100 kJ	14	72

**Riboflavin**

µg/100 kcal	80	500
µg/100 kJ	19	119

**Niacin (refers to preformed niacin)**

µg/100 kcal	300	1500
µg/100 kJ	70	360

**Vitamin B6**

µg/100 kcal	35	175
µg/100 kJ	8.5	45

**Vitamin B12**

µg/100 kcal	0.1	1.5
µg/100 kJ	0.025	0.36

**Pantothenic Acid**

µg/100 kcal	400	2000
µg/100 kJ	96	478

**Folic Acid**

µg/100 kcal	10	50
µg/100 kJ	2.5	12

**Vitamin C (Expressed as ascorbic acid)**

mg/100 kcal	10	70
mg/100 kJ	2.5	17

Unit	Minimum	Maximum
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**Biotin**

µg/100 kcal	1.5	10
µg/100 kJ	0.4	2.4

**(e) Minerals and Trace Elements should conform to the following Standards**

Unit	Minimum	Maximum
------	---------	---------

**Iron**

mg/100 kcal	0.45	1.5
mg/100 kJ	0.10	0.35

**Calcium**

mg/100 kcal	50	140
mg/100 kJ	12	35

**Phosphorus**

mg/100 kcal	25	100
mg/100 kJ	6	24

**Ratio calcium/ phosphorus**

-	1:1	2:1
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**Magnesium**

mg/100 kcal	5	15
mg/100 kJ	1.2	3.6

**Sodium**

mg/100 kcal	20	60
mg/100 kJ	5	14

**Chloride**

mg/100 kcal	50	160
mg/100 kJ	12	38

**Potassium**

mg/100 kcal	60	180
mg/100 kJ	14	43

**Manganese**

µg/100 kcal	1	100
µg/100 kJ	0.25	24

Unit	Minimum	Maximum
------	---------	---------

**Iodine**

µg/100 kcal	10	60
-------------	----	----

µg/100 kJ	2.5	14
-----------	-----	----

#### **Selenium**

µg/100 kcal	1	9
µg/100 kJ	0.24	2.2

#### **Copper**

µg/100 kcal	35	120
µg/100 kJ	8.5	29

#### **Zinc**

mg/100 kcal	0.5	1.5
mg/100 kJ	0.12	0.36

### **(f) Other Substances**

#### **Choline**

mg/100 kcal	7	50
mg/100 kJ	1.7	12

#### **Myo-inositol**

mg/100 kcal	4	40
mg/100 kJ	1	9.5

#### **L-Carnitine**

mg/100 kcal	1.2	NS
mg/100 kJ	0.3	NS

#### **Taurine**

mg/100 kcal	NS	12
mg/100 kJ	NS	3

Only L(+) lactic acid producing cultures should be used.

Fluoride should not be added to infant formula. In any case its level should not exceed 100 µg /100 kcal (24µg/100 kJ) in infant formula.

### **Vitamin compounds and mineral**

Vitamin compounds and mineral salts and other nutrients should be selected and added in accordance with the advisory lists of mineral salts and vitamin compounds for use in foods for infants and children (CAC/GL 10-1979),

### Consistency and particle size

Consistency and particle size when prepared according to the label directions for use, the product shall be free of lumps and of large coarse particles and suitable for adequate feeding of young infants.

### Purity requirements

Purity requirements must be met and all ingredients shall be clean, of good quality, safe and suitable for ingestion by infants. They shall conform to their normal quality requirements, such as color, flavor and odor.

### Specific prohibitions

Specific prohibitions that the product and its component shall not have been treated by ionizing irradiation.

#### 13.1.2 Food Additives

Only the food additives listed below (table 3) may be present in the foods, as a result of carry-over from a raw material or other ingredient (including food additive) used to produce the food, subject to the following conditions: the amount of the food additive in the raw materials or other ingredients (including food additives) does not exceed the maximum level specified; and the food into which the food additive is carried over does not contain the food additive in greater quantity than would be introduced by the use of the raw materials or ingredients under good manufacturing practice, consistent with the provisions on carry-over in the preamble of the general standard for food additives (CAC/STAN 192-1995).

**Table 3**

INS	Additive	Maximum Level in 100 mL of the Product Ready for Consumption
<b>Thickeners</b>		
412	Guar gum	0.1 g in liquid formulas containing hydrolysed protein
410	Carob bean gum (locust bean gum)	0.1 g in all types of infant formula
1412	Distarch phosphate	0.5 g singly or in combination in soy-based infant formula only 2.5 g singly or in combination in hydrolyzed protein and/or amino acid based infant formula only
1414	Acetylated distarch phosphate	
1413	Phosphated di starch phosphate	
1440	Hydroxypropyl starch	

407	Carrageenan	0.03 g in regular milk-and soy-based liquid infant formula only 0.1 g in hydrolysed protein- and/or amino acid based liquid infant formula only
1450	Starch sodium octenyl succinate	2 g in hydrolyzed protein and/or amino acid based infant formula only

### Emulsifiers

322	Lecithins	0.5 g in all types of infant formula <sup>*21</sup>
	Mono- and diglycerides (Halal only)	0.4 g in all types of infant formula <sup>*21</sup>
-	Citric and fatty acid esters of glycerol	0.9 g in all types of liquid infant formula
		0.75 g in all types of powder infant formula

### Acidity Regulators

524	Sodium hydroxide	0.2 g singly or in combination and within the limits for
		Sodium, potassium and calcium in section 3.1.3 (e) in all types of infant formula
500 II	Sodium hydrogen carbonate	-
500 I	Sodium carbonate	-
525	Potassium hydroxide	0.2 g singly or in combination and within the limits for
501II	Potassium hydrogen Carbonate	Sodium, potassium and calcium in section 3.1.3 (e) in
-	Carbonate	All types of infant formula
501I	Potassium carbonate	-
526	Calcium hydroxide	-



(21) If more than one of the substances are added the maximum level for each of those substances is lowered with the relative part as present of the other substances.

270	L(+) Lactic acid	Limited by GMP in all types of infant formula
330	Citric acid	Limited by GMP in all types of infant formula
331(I)	Sodium dihydrogen citrate	Limited by GMP in all types of infant formula
331(III)	Trisodium citrate	Limited by GMP in all types of infant formula
332	Potassium citrate	Limited by GMP in all types of infant formula
339 (I), (II) and (III)	Sodium dihydrogen phosphate, disodium hydrogen phosphate and trisodium phosphate	45 mg as phosphorus singly or in combination and within the limits for sodium, potassium and phosphorus in section (3.1.3 e) in all types of infant formula

#### Antioxidants

307 B	Mixed tocopherol concentrate	1 mg in all types of infant formula singly or in combination
304 I	Ascorbylpalmitate	1 mg in all types of infant formula singly or in combination

#### Packaging Gases

290	Carbon dioxide	GMP
941	Nitrogen	

### 13.1.3 Contaminants

#### (a) Pesticide Residues

The product shall be prepared with special care under good manufacturing practices, so that residues of those Pesticides which may be required in the production, storage or processing of the raw materials or the finished food ingredient do not remain, or, if technically unavoidable, are reduced to the maximum extent possible.

#### (b) Other Contaminants

The product shall not contain contaminants or undesirable substances (e.g. biologically active substances) in amounts which may represent a hazard to the health of the infant. If not specified in these Regulations, the products covered by the provisions of these standards shall comply with those limits and levels as stated in the Codex Alimentarius Commission.

#### (c) Lead

The maximum content allowed is 0.02 mg/kg in the ready-to-use product.

#### (d) Hygiene

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the recommended international code of practice - general principles of food hygiene (CAC/RCP 1-1969), and other relevant codex texts such as the code of hygienic practice for powdered formulae for infants and young children (CAC/RCP 66 - 2008). If the formula is in powdered form, in addition to above mentioned conformity requirements, it should also conform to the guidelines laid down by WHO/ FAO (2007) for safe preparation, storage and handling of powdered infant formula.

**Microbiological criteria:** The products should comply with any microbiological criteria established in accordance with the principles for the establishment and application of microbiological criteria for foods (CAC/GL 21-1997).

**Packaging:** The product shall be packed in containers which will safeguard the hygienic and other qualities of the food. When in liquid form, the product shall be packed in hermetically sealed containers; nitrogen and carbon dioxide may be used as packing media. The containers, including packaging materials, shall be made only of substances which are safe and suitable for their intended uses. Where the Codex Alimentarius Commission has established a standard for any such substance used as packaging materials, that standard shall apply.

### 13.1.4 Fill of Container

In the case of products in ready-to-eat form, the fill of container shall be:

- (a) Not less than 80% v/v for products weighing less than 150 g (5 oz.);
- (b) Not less than 85% v/v for products in the weight range 150-250 g (5-8 oz.); and
- (c) Not less than 90% v/v for products weighing more than 250 g (8 oz.) of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20° C which the sealed container will hold completely filled.

### **13.1.5 Labeling**

The requirements of the Codex General Standard for the labeling of prepackaged foods (Codex Standard 1-1985), the Codex guidelines on nutrition labeling (CAC/GL 2-1985) and the guidelines for use of nutrition and health claims apply to infant formula and formula for special medical purposes for infants. These requirements include a prohibition on the use of nutrition and health claims for foods for infants and young children except where specifically provided for in relevant Codex standards and EFSA approved claims. In addition to these requirements the following specific provisions apply.

#### **13.1.5.1 The Name of the Food**

- (i) The text on the label and all other information accompanying the product shall be written in Urdu or Urdu and English both.
- (ii) The name of the product shall be either "infant formula (from birth to six months)" or "Infant Formula (after six months to one year)"; whatever applicable as per Punjab Food Authority (Baby Food) Regulations, 2018.
- (iii) The sources of protein in the product shall be clearly shown on the label.
- (iv) If milk is the only source of protein, the product may be labeled "infant formula based on milk".

#### **13.1.5.2 List of Ingredients**

A complete list of ingredients shall be declared on the label in descending order of proportion except that in the case of added vitamins and minerals, these ingredients may be arranged as separate groups for vitamins and minerals. Within these groups the vitamins and minerals need not be listed in descending order of proportion. The specific name shall be declared for ingredients of animal or plant origin and for food additives. In addition, appropriate class names for these ingredients and additives may be included on the label.

#### **13.1.5.3 Declaration of Nutritive Value**

The declaration of nutrition information shall contain the following information which should be in the following order: The amount of energy, expressed in kilocalories (kcal) and/or kilojoules (kJ), and the number of grams of protein, carbohydrate and fat per 100 grams or per 100 milliliters of the food as sold as well as per 100 milliliters of the food ready for use, when prepared according to the instructions on the label. The declaration of nutrients per 100 kilocalories (or per 100 kilojoules) is also permitted.

#### **13.1.5.4 Date Marking and Storage Instructions**

The date of minimum durability (preceded by the words "best before") shall be declared by the day, month and year in UN-Coded Numerical Sequence except that for products with a shelf-life of more than three months, the month and year will suffice. The month may be indicated by letters. In addition to the date, any special conditions for the storage of the food shall be indicated if the validity of the date depends thereon. Where practicable, storage instructions shall be in close proximity to the date marking.

#### **13.1.5.5 Information for Use**

Products in liquid form may be used either directly or in the case of concentrated liquid

products, must be prepared with water that is safe or has been rendered safe by previous boiling before feeding, according to directions for use. Products in powder form should be reconstituted with water that is safe or has been rendered safe by previous boiling for preparation. Adequate directions for the appropriate preparation and handling should be in accordance with good hygienic practices and in case the formula intended for sale is in powder form, the leaflet or label should also contain “part 3: in the home” section of WHO/FAO (2007) guidelines for safe preparation, storage and handling of powdered infant formula in Urdu or Urdu & English both language(s). The label shall carry clear graphic instructions illustrating the method of preparation of the product. The directions should be accompanied by a warning about the health hazards of inappropriate preparation, storage and use. Adequate directions regarding the storage of the product after the container has been opened shall appear on the label and in any accompanying leaflet.

#### **13.1.5.6 Additional Labeling Requirements**

(i) Labels should not discourage breastfeeding. Each container label shall have a clear, conspicuous and easily readable message which includes the following points:

(ii) The words "important notice" or their equivalent;

(iii) The statement "breast milk is best food for your baby" and its translation in Urdu; a statement that the product should only be used on advice of an independent medical practitioner/nutritionist as to the need for its use and the proper method of use.

(iv) The label shall have no pictures of infants and women nor any other picture or text which idealizes the use of infant formula.

(v) The terms "humanized", "maternalized" or other similar terms shall not be used. Information shall appear on the label to the effect that infants should receive complementary foods in addition to the formula, from an age that is appropriate for their specific growth and development needs, as advised by an independent medical practitioner/nutritionist, and in any case from the age over six months. The products shall be labelled in such a way as to avoid any risk of confusion between infant formula, follow-up formula, and formula for special medical purposes.

### **13.2 Follow-up Formula**

“Follow-up-Formula” exclusively means a food intended for use, on medical ground (s), as a liquid part of diet which has been provided to be suitable for the young children from the age of more than twelve (12) months up to age of three years, and is a food prepared from the milk of cows or other halal animals and/or other edible constituents of animal and /or plant origin\*.

[\*Provided that the Palm Oil shall not be used as the sole source of vegetable derived lipids].

The Product shall be processed by physical means only and so packaged as to prevent spoilage and contamination under all normal conditions of handling, storage and distribution.

Follow-up formula in liquid form, is suitable for use either directly or diluted with water before feeding, as appropriate.

In powdered form, the product requires water for preparation. The product shall be nutritionally adequate to contribute to normal growth and development when used in

accordance with its directions for use.

### 13.2.1 Essential Composition

The standards for essential composition and energy content of follow-up formula shall conform to the standards as mentioned hereafter.

#### 13.2.1.1 Energy Content

Follow-up formula ready for consumption prepared in accordance with instructions of the manufacturer

shall contain per 100 mL not less than 60 kcal (250 kJ) and not more than 85 kcal (355 kJ) of energy.

#### 13.2.1.2 Nutrient Content

Follow-up formula prepared ready for consumption shall contain per 100 kcal (100 kJ) the minimum and maximum levels of nutrients:

##### (a) Protein

Unit	Minimum	Maximum
g/100 kcal	3	5.5
g/100 kJ	0.70	1.30

The calculation of the protein content of the final product prepared ready for consumption should be based on  $N \times 6.25$ .

Nutritional quality equivalent to that of casein or a greater quantity of other protein in inverse proportion to its nutritional quality. The quality of the protein shall not be less than 85% of that of casein. The total quantity of protein shall not be more than 5.5 g per 100 available calories (or 1.3 g per 100 available kilojoules).

The protein content in follow-up formula shall be milk protein having at least whey: casein ratio of 1: 1.

For an equal energy value the formula must contain an available quantity of each essential and semi-essential amino acid at least equal to that as mentioned in table below:

**Table: Minimum Level of Essential and Semi-essential Amino Acids in Follow-up Formula**

Amino acids	mg/g nitrogen	mg/g protein	mg/100 kcal (mg/100 kJ)
Cysteine	131	21	38 (9)
Histidine	141	23	41 (9.8)
Isoleucine	319	51	92 (22)
Leucine	586	94	169 (40)
Lysine	395	63	114 (27)
Methionine	85	14	24 (5.7)

Phenylalanine	282	45	81 (19.3)
Threonine	268	43	77 (18.4)
Tryptophan	114	18	33 (7.9)
Tyrosine	259	42	75 (17.9)

For calculation purposes, the concentrations of tyrosine and phenylalanine may be added together. The concentrations of methionine and cysteine may be added together if the ratio is less than 2:1. Isolated amino acids may be added to follow-up formula only to improve its nutritional value for infants. Essential and semi-essential amino acids may be added to improve protein quality, only in amounts necessary for that purpose. Only L-forms of amino acids shall be used.

#### (b) Lipids

##### Total fat

Unit	Minimum	Maximum
g/100 kcal	3	6
g/100 kJ	0.70	1.4

(1) Commercially hydrogenated oils & fats and the same being used for commercial hydrogenation shall not be used in follow-up formula.

(2) Lauric and myristic acids combined shall not exceed 20% of total fatty acids.

(3) The content of trans-fatty acids shall not exceed 3% of total fatty acids provided 100% milk fat is used in the formula.

(4) Plant oils and fats intended to be used in follow-up formula should be virtually trans fat free and the maximum allowance level for trans fatty acids shall be proportionately decreased with increasing level of plant oils and fats in the formula.

(5) Plant oils and fats intended to be used in follow-up formula should be virtually trans fat free and the maximum allowance level for trans fatty acids shall be proportionately decreased with increasing level of plant oils and fats in the formula.

(6) The erucic acid content shall not exceed 0.5% of total fatty acids.

(7) The total content of phospholipids should not exceed 300 mg/100 kcal (72 mg/100 kJ).

(8) The total level of linolenic acid (in form of glycerides) shall not be less than 300 mg/100 kcal (72 mg/100 kJ).

Standards for polyunsaturated fatty acids in follow-up formula:

##### Levels of Polyunsaturated Fatty Acids in Follow up Formula

Fatty acids	Minimum		Maximum	
	mg/100 kcal	mg/100 kJ	mg/100 kcal	mg/100 kJ
Linoleic acid	300	70	-N.S	N.S

A-linolenic acid	50	12	N.S	N.S
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#### **DHA & ARA**

<b>Unit</b>	<b>GUL</b>
% of fatty acids	0.5

If docosahexaenoic acid (22:6 n-3) is added to infant formula, arachidonic acid (20:4 n-6) contents should reach at least the same concentration as DHA. The content of eicosapentaenoic acid (20:5 n-3), which can occur in sources of LC-PUFA, should not exceed the content of docosahexaenoic acid.

#### **(c) Carbohydrates**

(i) Total carbohydrates the product shall contain nutritionally available carbohydrates suitable for the feeding of the older infants and the young child in such quantities as to adjust the product to the energy density in accordance with the requirements set out in section (13.2.1.1.).

#### **(d) Vitamins**

<b>Amounts per 100 Available Calories</b>			<b>Amounts per 100 Available kilojoules</b>	
<b>Vitamins</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Minimum</b>	<b>Maximum</b>
Vitamin A	250 IU or 75µg	750 IU or 225µg	60 IU or 18µg	180 IU or 54µg
Vitamin D	40 IU or 1µg	120 IU or 3µg	10 IU or 0.25µg	30 IU or 0.75 µg
Ascorbic acid(vitamin C)	8mg	NS	1.9mg	NS
Thiamine (vitamin B <sub>1</sub> )	40 µg	NS	10 µg	NS
Riboflavin (vitamin B <sub>2</sub> )	60 µg	NS	14 µg	NS
Nicotinamide	250 µg	NS	60 µg	NS
Vitamin B <sub>6</sub>	45 µg	NS	11 µg	NS
Folic acid	4 µg	NS	1 µg	NS
Pantothenic acid	300 µg	NS	70 µg	NS
Vitamin B <sub>12</sub>	0.15 µg	NS	0.04 µg	NS
Vitamin K <sub>1</sub>	4 µg	NS	1 µg	NS

Biotin (vitamin H)	1.5 µg	NS	0.4 µg	NS
Vitamin E (α-tocopherol Compounds)	0.7 IU /g linoleic Acid , but in no case less than 0.7IU/100 available calories	NS	N.s.1 0.7 IU/g linoleic acid, but in no case less than 0.15 IU/100 available kilojoules	NS

#### (e) Minerals

Sodium (Na)	20 mg	85 mg	5 mg	21 mg
Potassium (K)	80 mg	NS	20 mg	NS
Choloride (Cl)	55 mg	NS	14 mg	NS
Calcium (Ca)	90 mg	NS	22 mg	NS
Phosphorous (P)	60 mg	NS	14 mg	NS
Magnesium (Mg)	6 mg	NS	1.4 mg	NS
Iron (Fe)	1 mg	2 mg	0.25 mg	0.50 mg
Iodine (I)	5 µg	NS	1.21 µg	NS
Zinc (Zn)	0.5 mg	NS	0.12 mg	NS

The calcium, phosphorus ratio shall not be less than 1.0 and not more than 2.0.

Only l(+) lactic acid producing cultures should be used.

### 13.2.2 Ingredients

#### 13.2.2.1 Essential Ingredients

(a) Follow-up formula shall be prepared from the milk of cows or of other animals and/or other protein products of animal and/or plant origin which have been proved suitable for young children from the 13<sup>th</sup> month on and for young children and from other suitable ingredients necessary to achieve the essential composition of the product as set out in sections (13.2.1)

(b) Follow-up formula based on milk shall be prepared from ingredients as set out in section (13.2.2.1) clause (a) above except that a minimum of 3 g per 100 available calories (or 0.7 g per 100 kilojoules) of protein shall be derived from whole or skimmed milk as such, or with minor modification that does not substantially impair the vitamin or mineral content of the milk and which represents a minimum of 90% of the total protein.

#### 13.2.2.2 Optional Ingredients

(a) In addition to the vitamins and minerals listed under (13.2.1.2) (d) and (e) other nutrients may be added when required to ensure that the product is suitable to form part of a mixed feeding scheme intended for use from the 13<sup>th</sup> month onwards.

(b) The usefulness of these nutrients shall be scientifically shown.



(c) When any of these nutrients is added, the food shall contain significant amounts of these nutrients based on the requirements of young children.

### 13.2.3 Purity Requirements

All ingredients shall be clean, of good quality, safe and suitable for ingestion by infants from the 6<sup>th</sup> month on and young children. They shall conform to their normal quality requirements, such as colour, flavour and odour.

### 13.2.4 Vitamin Compounds and Mineral Salts

(1) Vitamin compounds and mineral salts used in accordance with sections 13.2.2.1 and 13.2.2.2 should be selected from the advisory lists for mineral salts and vitamin compounds for use in foods for infants and children approved by the Codex Alimentarius Commission (CAC/GL 10-1979).

(2) The amounts of sodium derived from vitamin and mineral ingredients shall be within the limit for sodium.

### 13.2.5 Consistency and Particle Size

When prepared according to the directions for use, the product shall be free of lumps and of large coarse particles.

### 13.2.6 Specific Prohibition

The product and its components shall not have been treated by ionizing radiation.

### 13.2.7 Food Additives

The following additives are permitted:

Thickening Agents	Maximum Level in 100 mL of Product Ready-for-Consumption
Guar gum	0.1 g
Locust bean gum	-
Di starch phosphate	0.5 g singly or in combination
Acetylated di starch phosphate	Combination in soy-based products Only
Phosphated di starch phosphate	-
Acetylated di starch adipate	2.5 g singly or in combination in hydrolyzed protein and/or amino acid based products only
Carrageenan	0.03 g singly or in combination in milk and soy-based products only
	0.1 g singly or in combination in hydrolyzed protein and/or amino acid-based liquid products only
Pectins	1 g

<b>Emulsifiers</b>	<b>Maximum Level in 100 mL of Product Ready-for-Consumption</b>
Lecithin	0.5 g
Mono- and diglycerides	0.4 g

<b>pH- Adjusting Agents</b>	<b>Maximum Level in 100 mL of Product Ready-for-Consumption</b>
Sodium hydrogen carbonate	-
Sodium carbonate	-
Sodium citrate	-
Potassium hydrogen carbonate	-
Potassium carbonate	<p>Limited by good manufacturing practice within the limits for sodium in section 3.2.6</p>
Potassium citrate	
Sodium hydroxide	
Potassium hydroxide	
Calcium hydroxide	
L (+) lactic acid	
L (+) lactic acid producing cultures	
Citric acid	

<b>Antioxidants</b>	<b>Maximum Level in 100 mL of Product Ready-for-Consumption</b>
Mixed tocopherols concentrate	3 mg singly or in combination
$\alpha$ -tocopherol	
L-ascorbyl palmitate	5 mg singly or in combination, expressed as ascorbic acid (see section 3.2.6)
L-ascorbic acid and its Na, Ca salts	

<b>Flavours</b>	<b>Maximum Level in 100 mL of Product Ready-for-Consumption</b>
Natural fruit extracts	GMP
Vanilla extract	GMP
Ethyl vanillin	5 mg
Vanillin	5 mg

### **Carry-Over Principle**

Section 4.1 of the general standard for food additives (Codex Standard 192-1995) shall apply

### **13.2.8 Contaminants**

#### **(1) Pesticide Residues**

The product shall be prepared with special care under good manufacturing practices, so that residues of those pesticides which may be required in the production, storage or processing of the raw materials or the finished food ingredient do not remain, or, if technically unavoidable, are reduced to the maximum extent possible.

#### **(2) Other Contaminants**

The product shall be free from residues of hormones and antibiotics, as determined by means of agreed methods of analysis, and practically free from other contaminants, especially pharmacologically active substances.

### **13.2.9 Hygiene**

(1) To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.

- (2) When tested by appropriate methods of sampling and examination, the product:
- (a) Shall be free from pathogenic microorganisms
  - (b) Shall not contain any substances originating from microorganisms in amounts which may represent a hazard to health; and
  - (c) Shall not contain any other poisonous or deleterious substances in amounts which may represent a hazard to health.
- (3) The product shall be prepared, packed and held under sanitary conditions and should comply with the relevant provisions of the code of hygienic practice for powdered formulae for infants and young children (CAC/RCP 66-2008).

#### **13.2.10 Packaging**

- (1) The product shall be packed in containers which will safeguard the hygienic and other qualities of the food. When in liquid form, the product shall be packed in hermetically sealed containers; nitrogen and carbon dioxide may be used as packing media.
- (2) The containers, including packaging materials, shall be made only of substances which are safe and suitable for their intended uses. Where the Codex Alimentarius Commission has established a standard for any such substance used as packaging materials, that standard shall apply.

#### **13.2.11 Fill of Containers**

In the case of products in ready-to-eat form, the fill of container shall be:

- (i) Not less than 80% v/v for products weighing less than 150 g (5 1/2 oz.);
- (ii) Not less than 80% v/v for products weighing less than 150 g (5 1/2 oz.);
- (iii) Not less than 90% v/v for products weighing more than 250 g (9 oz.) of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C which the sealed container will hold when completely filled.

#### **13.2.12 Labeling**

In addition to the requirements of the Codex General Standard for the labeling of pre packaged foods (Codex Standard 1-1985), the following specific provisions apply:

##### **13.2.12.1 The Name of the Food**

- (1) The name of the food shall be "follow-up formula". In addition thereto, any appropriate designation may be used in accordance with national usage.
- (2) Those products which are prepared from whole or skimmed milk in accordance with section (13.2.2.1) (b) and where 90% or more of the protein is derived from whole or skimmed milk as such, or with minor modification that does not substantially impair the vitamin and mineral content of the milk, may be labelled "follow-up formula based on milk".
- (3) All sources of protein shall be clearly shown on the label in close proximity to the name of the food in descending order of proportion by weight.
- (4) A product which contains neither milk nor any milk derivative may be labelled "contains no milk or milk products" or an equivalent phrase.

##### **13.2.12.2 List of Ingredients**

The declaration of the list of ingredients shall be in accordance with sections 4.2.1, 4.2.2 and 4.2.3 of the codex general standard for the labeling of prepackaged foods

except that in the case of added vitamins and added minerals, these ingredients shall be arranged as separate groups for vitamins and minerals, respectively, and within these groups the vitamins and minerals need not be listed in descending order of proportion.

#### **13.2.12.3 Declaration of Nutritive Value**

The declaration of nutrition information shall contain the following information in the following order:

- (a) The amount of energy, expressed in calories (kcal) and/or kilojoules (kJ) per 100 g of the food as sold as well as per specified quantity of the food as suggested for consumption.
- (b) The number of grams of protein, carbohydrate and fat per 100 g of the food as sold as well as per specified quantity of the food as suggested for consumption. In addition, the declaration per 100 calories (or per 100 kilo joules) is permitted.
- (c) The total quantity of each vitamin, mineral and any optional ingredient, as listed in section 3.3.2 of this standard per 100 g of the food as sold as well as per specified quantity of the food as suggested for consumption. In addition, the declaration per 100 calories (or per 100 kilojoules) is permitted.

#### **13.2.12.4 Date marking and storage instructions**

Sections (4.7.1) and (4.7.2) of the Codex general standard for the labeling of prepackaged foods, the following provisions apply: 9.4.1 storage of opened food, storage instructions of opened packages of a food for special dietary uses shall be included on the label if necessary to ensure that the opened product maintains its wholesomeness and nutritive value. A warning should be included on the label if the food is not capable of being stored after opening or is not capable of being stored in the container after opening.

#### **13.2.12.5 Information for Utilization**

- (1) Directions as to the preparation and use of the food, and its storage and keeping after the container has been opened shall appear on the label.
- (2) The labeling of a follow-up formula shall include a statement that follow-up formula shall not be introduced before the 6<sup>th</sup> month of life.
- (3) Information that infants and children fed follow-up formula shall receive other foods in addition to the food shall appear on the label.

#### **13.2.12.6 Additional Requirements**

The products covered by this standard are not breast-milk substitutes and shall not be presented as such.

#### **13.2.13 Methods of Analysis and Sampling**

See relevant Codex texts on methods of analysis and sampling

### **13.3 Formulae for Special Medical Purposes for Infants**

- (i) Formula for special medical purposes intended for "infants" means infant formula that is specially manufactured to satisfy, by itself, the special nutritional requirements of infants with specific disorders, diseases or medical conditions during the first months of life up to the introduction of appropriate complementary feeding.
- (ii) Formula for special medical purposes intended for infants is food for special dietary uses which is specially processed or formulated and presented for the dietary management

of infants and may be used only under medical supervision

(iii) Formula is intended for the exclusive or partial feeding of infants with limited or impaired capacity to take, digest, absorb or metabolize mother's milk or ordinary infant formula or certain nutrients contained therein, or who have other special medically-determined nutrient requirements, whose dietary management cannot be achieved only by mother's milk or normal infant formula.

(iv) The application of this section of the standard should take into account, as appropriate for the products to which the section applies and the special needs of the infants for whom they are intended, the recommendations made in the international code of marketing of breast-milk substitutes (1981), the global strategy for infant and young child feeding and world health assembly resolution WHO 54.2 (2001).

(v) The energy content, nutrient composition and all other standards for vitamin compounds and mineral salts, consistency and particle size, purity requirements, specific prohibitions, food additives, contaminants, hygiene, packaging, fill of container, labeling, list of ingredients, date marking and storage instructions, information for use of formula for special medical purposes intended for infants shall be based on the requirements for infant a formula except for the compositional provisions which must be modified to meet the special nutritional requirements arising from the disease(s), disorder(s) or medical condition(s) for whose dietary management the product is specifically formulated, labelled and presented.

(vi) In addition to the compositional requirements, other ingredients may be added in order to provide substances ordinarily found in human milk or required to ensure that the formulation is suitable as the sole source of nutrition for the infant and for the dietary management of his/her disease, disorder or medical condition.

(vii) Only l(+)-lactic acid producing cultures may be used in formulas for special medical purposes for infants if shown to be safe and appropriate for use in these vulnerable populations.

The following requirements shall also be taken into account, where appropriate:

<b>Chromium Unit</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Gul</b>
g/100 kcal	1.5	-	10
g/100 kJ	0.4	-	2.4

  

<b>Molybdenum Unit</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Gul</b>
g/100 kcal	1.5	-	10
g/100 kJ	0.4	-	2.4

(a) The name of the food

(i) In addition to conformity requirements with standards laid down for infant formula the following standards will apply

(ii) The name of the product shall be "formula for special medical purposes intended for infants" or any other appropriate designation indicating the true nature of the product, in accordance with the usage.

(iii) If milk is the only source of protein, the product may be labelled "formula for special medical purposes intended for infants based on milk". Declaration of nutritive value formula for special medical purposes intended for infants shall be labelled with complete nutrition labeling according to section 4.2 of Codex standard for the labeling of and claims for foods for special medical purposes (Codex Standard) 180-199

### **Additional Labeling Requirements**

In addition to conformity with standards laid down for infant formula the following standards will apply:

(i) Formula for special medical purposes intended for infants shall be labelled with the additional information as specified in sections (4.4.1), (4.4.3), (4.4.4), (4.5.1) and (4.5.5) of Codex Standard (180-1991).

(ii) A prominent statement indicating that the product is intended as the sole source of nutrition shall appear on the label.

(iii) In addition, the information specified in sections (4.5.2), (4.5.3) and (4.5.6) of Codex standard (180-1991) shall be included on the label or be provided separately from the package.

(iv) Labels and information provided separately from the package should not discourage breast feeding, unless breast feeding is contraindicated on medical grounds for the disease(s), disorder(s) or medical condition(s) for which the product is intended.

### **13.4 Infant Formula with Edible Vegetable Fat**

A "infant formula with edible vegetable fat" means any food described or sold as an alternative for human milk for the feeding of infants not compromising on exclusive breast feeding as described in WHO code. It is a product prepared from milk of cow or buffalo or other halal milk animals or edible constituents of halal milk animals or both including fish, or from plant suitable for infant feeding. Infant formula prepared in accordance with the direction on the label shall have the energy value of not less than 640 kcal and not more than 720 kcal per liter of the product ready for consumption. The milk may be modified by the partial removal / substitution of different milk solids; carbohydrates such as sucrose, dextrose and dextrin in maltose and lactose, salts like phosphates and citrates; vitamins A.D.E.B group vitamin C and minerals like iron, copper, zinc and iodine. Infant formula or the ingredient used in making the formula shall not have been treated by ionizing radiation.

Infant formula shall be prepared by spray drying of the milk of cow or buffalo or other halal milk animal.

The source of iron may be selected from "ferrous sulphate", "ferrous citrate", "ferrous fumarate", "ferrous succinate", "ferric ammonium citrate", "ferric pyrophosphate". It shall be free from starch, preservatives, antioxidants, colors and flavor except permitted additives specified in column (1) of given below table in proportion not greater than the maximum permitted proportion specified opposite there to in the column (2) of the said table. It shall not have rancid taste and musty colour. Vegetable oils rich in polyunsaturated fatty acids shall be added to substitute the milk fat and minimum of linoleate content of 1.398 gram per 100 gram of the product.

There shall be written on the label of the package containing infant formula with edible vegetable fat, the brand or trade name" immediately followed by the word edible vegetable fat in the equal uniform lettering. These words shall be from the first line or lines of the label and no other word shall appear in the same line or lines with these words will be surrounding by rectangular surrounding line.

<b>*Contains edible vegetable fat</b>
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It shall conform to the following standards:

(i) Moisture	Not more than 4%
(ii) Total ash	Not more than 8.5%
(iii) Ash insoluble in hydrochloric acid	Not more than 0.1%
(iv) Total milk protein	Not less than 10 %

(v) Total Fat	Not less than 18%
(vi) Solubility index	Not more than 2%
(vii) Solubility by weight	Not less than 98.5%

### **13.5 Dietetic Foods Intended for Special Medical Purposes (Excluding Products of Food Category 13.1)**

Are a category of foods for special dietary uses which are specially processed or formulated and presented for the dietary management of patients and may be used only under medical supervision. They are intended for the exclusive or partial feeding of patients with limited or impaired capacity to take, digest, absorb or metabolize ordinary foodstuffs or certain nutrients contained therein, or who have other special medically-determined nutrient requirements, whose dietary management cannot be achieved only by modification of the normal diet, by other foods for special dietary uses, or by a combination of the two.

The formulation of foods for special medical purposes should be based on sound medical and nutritional principles. Their use should have been demonstrated, by scientific evidence, to be safe and beneficial in meeting the nutritional requirements of the persons for whom they are intended. The labels, accompanying leaflets and/or other labeling and advertising of all types of foods for special medical purposes should provide sufficient information on the nature and purpose of the food as well as detailed instructions and precautions for their use. The advertising of these products to the general public should be prohibited. The format of the information given should be appropriate for the person for whom it is intended. Foods for special medical purposes shall be labelled in accordance with the Codex general standard for the labeling of and claims for prepackaged foods for special dietary uses (Codex standard 146-1985).

A prominent statement "use under medical supervision" shall appear on the label in bold letters in an area separated from other written, printed, or graphic information.

A formula food for use in very low energy diets is a food specially prepared to supply a minimum amount of carbohydrates and the daily requirements of the essential nutrients in 450-800 kcal which represents the sole source of energy intake.

#### **13.5.1 Essential Composition and Quality Factors**

The product as sold should comply with the following composition and quality factors:

##### **13.5.1.1 Energy Content**

A formula food for very low energy diets shall provide when prepared according to instructions a daily energy intake of 450-800 kcal as the only source of energy.

##### **13.5.1.2 Nutrients Contents**

###### **(i) Protein**

Not less than 50 g protein with a nutritional quality equivalent to a protein. Digestibility-corrected amino acid score shall be present in the recommended daily intake of energy.

Essential amino acids may be added to improve protein quality only in amounts necessary for this purpose. Only L-forms of amino acids shall be used, except that DL-methionine may be used.

###### **(ii) Fats**

Very low energy diets shall provide not less than 3 g of linoleic acid and less than 0.5 g  $\alpha$ -linolenic acid in the recommended daily intake with the linoleic acid/ $\alpha$ -linolenic acid ratio between 5 and 15.

###### **(iii) Carbohydrates**

Very low energy diets shall provide not less than 50 g of available carbohydrates in the recommended daily intake of energy.

###### **(iv) Vitamins and Minerals**

Very low energy diets shall provide 100% of the recommended daily intakes for vitamins and minerals. Other essential nutrients not specified below may also be included.

###### **(v) Vitamins**

Vitamin A	600 mg
Vitamin D	2.5 mg
Vitamin E	10 mg
Vitamin C	30 mg
Thiamin	0.8 mg
Riboflavin	1.2 mg
Niacin	11 mg



	Vitamin B	2 mg
	Vitamin B <sub>12</sub>	1 mg
	Folic acid (as monoglutamate)	200mg
<b>(vi) Minerals</b>		
	Calcium	500 mg
	Phosphorus	500 mg
	Iron	16 mg
	Iodine	140 mg
	Magnesium	350 mg
	Copper	1.5 mg
	Zinc	6 mg
	Potassium	1.6 g
	Sodium	1

### **13.5.1.3 Ingredients**

Very low energy diets shall be prepared from protein constituents of animal and/or plant which have been proved suitable for human consumption and from other suitable ingredients necessary to achieve the essential composition of the product as set out in sections (3.1) and (3.2) above.

### **13.5.1.4 Food Additives**

Food additives cleared by the joint FAO/WHO expert committee on food additives shall be permitted at levels endorsed by the codex committee on food additives and contaminants.

### **Pesticide Residues**

The product shall be prepared with special care under good manufacturing practices, so that no residues of pesticides, which may be required in the production, storage or processing of the raw materials or the finished food ingredient, remain in the product, or, if technically unavoidable, are reduced to the maximum extent possible, and shall comply with those maximum residue limits established by the Codex committee on pesticide residues for this commodity.

### **13.5.1.5 Other Contaminants**

The product shall be free from residues of hormones and antibiotics, as determined by means of agreed methods of analysis, and practically free from other contaminants especially pharmacologically active substances.

### **13.5.1.6 Hygiene**

(1) To the extent possible in good manufacturing practices, the product shall be free from objectionable matter.

(2) When tested by appropriate methods of sampling and examination, the product:

(a) Shall be free from pathogenic microorganisms;

(b) Shall not contain any substances originating from microorganisms in amounts which may represent a hazard to health; and

(c) Shall not contain any other poisonous or deleterious substances in amounts which may represent a hazard to health.

### **13.5.1.7. Packaging**

1. The product shall be packed in containers which will safeguard hygienic and other qualities of the foods. When in liquid form, the product shall be thermally processed and packed in hermetically sealed containers to ensure sterility; nitrogen and carbon dioxide may be used as packing media.

2. The containers, including packaging materials, shall be made only of substances which are safe and suitable for their intended uses. Where the Codex Alimentarius Commission has established a standard for any such substances, used as packaging materials, that standard shall apply.

#### **13.5.1.8. Fill of Container**

In the case of products in ready to eat form, the fill of the container shall be:

- (a) Not less than 80% v/v for products weighing less than 150 g (5 oz);
- (b) Not less than 85% v/v for products in the weight range of 150-250 g (5-8 oz); and
- (c) Not less than 90% v/v for products weighing more than 250 g (8 oz) of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C which the sealed container will hold when completely filled.

#### **13.5.1.9. Labeling**

In addition to the appropriate sections of the general standard for the labeling of and claims for prepackaged foods for special dietary uses (Codex standards 146-1985) and the Codex standard for the labeling of and claims for foods for special medical purposes (Codex standards 180-1991), the following specific provisions apply:

The name of the food shall be "formula food for use in very low energy diets".

#### **13.5.1.10 List of Ingredients**

A complete list of ingredients shall be declared in accordance with section 4.2 of the Codex general standard.

#### **13.5.1.11 Declaration of Nutritive Value**

The nutritive value shall be declared on the label per 100 grams or 100 ml of the food as sold and, where appropriate, for a specified quantity of the food as suggested for consumption:

- (a) The amount of energy expressed in kilocalories (kcal) and kilojoules (kJ);
- (b) The amounts of protein, available carbohydrates and fat expressed in grams;
- (c) The amounts of vitamins and minerals in section (13.5.1.2) expressed in metric units;
- (d) The amounts of other nutrients may also be declared.

If the fatty acid composition is declared on the label, it should be done in accordance with the Codex guidelines on nutrition labeling (CAC/GL 2-1985).

In addition, the quantity of nutrients may be expressed in terms of percentages of internationally acceptable recommended daily nutrient standards.

#### **13.5.1.12 Date Marking**

The date of minimum durability shall be declared in accordance with section (4.7.1) of the general standard.

#### **Storage Instructions**

##### **Un-opened Food**

Any special conditions for the storage of the food shall be declared on the label if the validity of the date depends thereon. Storage instructions of opened packages of the food shall be included on the label to ensure that the opened food maintains its wholesomeness and nutritive value. A warning should be included on the label if the food is not capable of being stored after opening or is not capable of being stored in the container after opening.

##### **Information for Utilization**

For foods for special medical purposes, the following directions should be provided:

The statement "for the dietary management of obesity" shall be declared on the label, in close proximity to the name of the food.

Reference to the importance of maintaining adequate daily fluid intake.

A statement that the product should not be used by pregnant, nursing and lactating women or by infants, children, adolescents and elderly, except when medically indicated.

## **Additional Provisions**

A statement that the product may not be recommended for use for purposes other than the dietary management of obesity. The statements with respect to the name of the food and the indications for use shall appear on the label of the package and/or sachet for use by the consumer. Other statements, as required under section (9.6) above and section (4.5) of the Codex standard for the labeling of and claims for foods for special medical purposes, may appear on an accompanying leaflet in which case reference shall be made to this fact on the label of the package and/or sachet.

## **13.6 Standard for Processed Cereal-based Foods for Infants and Young Children**

### **1. Scope**

This standard covers processed cereal-based foods intended for feeding infants as a complementary food generally from the age of 6 months onwards, taking in to account infants' individual nutritional requirements, and for feeding young children as part of a progressively diversified diet, in accordance with the global strategy for infant and young child feeding and world health assembly resolution WHA 54.2 (2001).

### **2. Description**

Processed cereal-based foods are prepared primarily from one or more milled cereals, which should constitute at least 25% of the final mixture on a dry weight basis.

#### **2.1. Product Definitions**

Four categories are distinguished:

**2.1.1** Products consisting of cereals which are or have to be prepared for consumption with milk or other appropriate nutritious liquids;

**2.1.2** Cereals with an added high protein food which are or have to be prepared for consumption with water or other appropriate protein-free liquid;

**2.1.3** Pasta which are to be used after cooking in boiling water or other appropriate liquids;

**2.1.4** Rusks and biscuits which are to be used either directly or, after pulverization, with the addition of water, milk or other suitable liquids.

#### **2.2 Other Definitions**

**2.2.1** The term infant means a person not more than 12 months of age.

### **3. Essential Composition and Quality Factors**

#### **3.1 Essential Composition**

**3.1.1** The four categories listed in (2.1.1) to (2.1.4) are prepared primarily from one or more milled cereal products, such as wheat, rice, barley, oats, rye, maize, millet, sorghum and buck wheat. They may also contain legumes (pulses), starchy roots (such as arrow root, yam or cassava) or starchy stems or oil seeds in smaller proportions.

#### **3.2 Energy Density**

The energy density of cereal-based foods should not be less than 3.3 kJ/g (0.8 kcal/g).

#### **3.3 Protein**

**3.3.1** The chemical index of the added protein shall be equal to at least 80% of that of the reference protein case in or the protein efficiency ratio(per) of the protein in the mixture shall be equal to at least 70% of that of the

reference protein casein. In all cases, the addition of amino acids is permitted solely for the purpose of improving the nutritional value of the protein mixture, and only in the proportions necessary for that purpose. Only natural forms of l-amino acids should be used.

**3.3.2** For products mentioned in points 2.1.2 and 2.1.4, the protein content shall not exceed 1.3 g/100 kJ (5.5g/100 kcal).

**3.3.3** For products mentioned in point 2.1.2 the added protein content shall not be less than 0.48 g/100 kJ (2 g/100 kcal).

**3.3.4** For biscuits mentioned in point 2.1.4 made with the addition of a high protein food, and presented as such ,the added protein shall not be less than 0.36 g/100 kJ (1.5g/ 100 kcal).

### 3.4 Carbohydrates

3.4.1 If sucrose, fructose, glucose, glucose syrup or honey are added to products mentioned in points (2.1.1) and (2.1.4):

The amount of added carbohydrates from the resources shall not exceed 1.8g/100kJ (7.5 g/100 kcal);

The amount of added fructose shall not exceed 0.9 g/100 kJ (3.75 g/100 kcal).

3.4.2 If sucrose, fructose, glucose, glucose syrup or honey are added to products mentioned in point 2.1.2: The amount of added carbohydrates from the resources shall not exceed 1.2 g/100 kJ (5 g/100 kcal); The amount of added fructose shall not exceed 0.6 g/100 kJ (2.5 g/100 kcal).

### 3.5 Lipids

3.5.1 For products mentioned in point (2.1.2) the lipid content shall not exceed 1.1 g/100 kJ (4.5 g/100 kcal). If the lipid content exceeds 0.8 g/100 kJ (3.3 g/100 kcal):

The amount of linoleic acid (in the form of triglycerides=linoleates) shall not be less than 70 mg/100 kJ (300 mg/100 kcal) and shall not exceed 285 mg/100 kJ (1200 mg/100 kcal);

The amount of lauric acid shall not exceed 15% of the total lipid content;

The amount of myristic acid shall not exceed 15% of the total lipid content

3.5.2 Product categories (2.1.1) and (2.1.4) shall not exceed a maximum lipid content of 0.8 g/100 kJ (3.3 g/100 kcal).

### 3.6 Minerals

3.6.1 The sodium content of the products described in sections (2.1.1) to (2.1.4) of this standard shall not exceed 24 mg/100 kJ (100 mg/100 kcal) of the ready-to-eat product.

3.6.2 The calcium content shall not be less than 20 mg/100 kJ (80 mg/100 kcal) for products mentioned in points 2.1.2.

3.6.3 The calcium content shall not be less than 12 mg/100 kJ (50 mg/100 kcal) for products mentioned in point

2.1.4 Manufactured with the addition of milk and presented as such.

### 3.7 Vitamins

3.7.1 For products mentioned in (2.1.2), the amount of vitamin A and vitamin D shall be within the following limits:

Nutrients	µg/100kJ	µg/100kcal
<b>Vitamin A</b> (µg retinol equivalents)	14-43	60-180
<b>Vitamin D</b>	0.25-0.75	1-3

The amount of vitamin B1 (thiamin) shall not be less than 12.5µg/100kJ (50µg/100kcal).

These limits are also applicable to other processed cereal-based foods when vitamin A or D are added.

3.7.2 Reductions of the maximum amounts for vitamin A and vitamin D referred to in (3.7.1) and the addition of vitamin and minerals for which specifications are not set above shall be in conformity with the legislation of the country in which the product is sold.

3.7.3 Vitamins and/ or minerals added should be selected from the advisory lists of mineral salts and vitamin compounds for use in foods for infants and children (CAC/GL 10-1979).

### 3.8 Optional Ingredients

**3.8.1** In addition to the ingredients listed under section (3.1), other ingredients suitable for infants who are more than six months of age and for young children can be used.

**3.8.2** Products containing honey or maple syrup should be processed in such a way as to destroy spores of *Clostridium botulinum*, if present.

**3.8.3** Only L (+) lactic acid producing cultures may be used.

### 3.9 Quality factors

**3.9.1** All ingredients, including optional ingredients, shall be clean, safe, suitable and of good quality.

**3.9.2** All processing and drying should be carried out in a manner that minimizes loss of nutritive value, particularly protein quality.

**3.9.3** The moisture content of the products shall be governed by good manufacturing practice for the individual product categories and shall be such a level that there is a minimum loss of nutritive value and at which microorganisms cannot multiply.

### 3.10 Consistency and Particle Size

**3.10.1** When prepared according to the label directions for use, processed cereal-based foods should have a texture appropriate for the spoon feeding of infants or young children of the age for which the product is intended.

**3.10.2** Rusks and biscuits may be used in the dry forms so as they may be used in a liquid form, by mixing with water or other suitable liquid, that would be similar in consistency to dry cereals.

### 3.11 Specific Prohibition

The product and its components shall not have been treated by ionizing radiation. The use of partially hydrogenated fats for these products is prohibited.

## 4. Food Additives

Only the food additives listed in this section or in the Codex advisory list of vitamin compounds for use in foods for infants and children (CAC/GL 10-1979) may be present in the foods described in section (2.1) of this standard, as a result of carry-over from a raw material or other ingredient (including food additive) used to produce the food, subject to the following conditions:

(a) The amount of the food additive in the raw materials or other ingredients (including food additives) does not exceed the maximum level specified; and

(b) The food into which the food additive is carried over does not contain the food additive in greater quantity than would be introduced by the use of the raw materials or ingredients under good manufacturing practice, consistent with the provisions on carry-over in the preamble of the general standard for food additives (Codex Standard 192-1995).

The following additives are permitted in the preparation of processed cereal-based foods for infants and young children, as described in section (2.1) of this standard (in 100g of product, ready for consumption prepared following manufacturer's instructions unless otherwise indicated).

INS No		Maximum Level
<b>Emulsifiers</b>		
322	Lecithins	1500 mg
471	Mono- and diglycerides	500 mg singly or in combination
472a	Acetic and fatty acid esters of glycerol	
472b	Lactic and fatty acid esters of glycerol	

472c	Citric and fatty acid esters of glycerol	
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### Acidity Regulators

500 (ii)	Sodium hydrogen carbonate	GMP
501 (ii)	Potassium hydrogen carbonate	GMP
170(i)	Calcium carbonate	GMP
270	L(+) lactic acid	GMP
330	Citric acid	GMP
260	Acetic acid	GMP
261	Potassium acetates	GMP
262	Sodium acetate	GMP
263	Calcium acetate	GMP
296	Malic acid (dl) - L (+)-form only	GMP
325	Sodium lactate (solution) - L(+)- form only	GMP
326	Potassium lactate (solution) - L (+)- form only	GMP
327	Calcium lactate - l (+)-form only	GMP
331 (i)	Mono sodium citrate	GMP
331 (ii)	Tri sodium citrate	GMP
332	Mono potassium citrate	GMP

### Acidity Regulators

332 (ii)	Tri potassium citrate	GMP
333	Calcium citrate	GMP
507	Hydro chloric acid	GMP
524	Sodium hydroxide	GMP
525	Potassium hydroxide	GMP
526	Calcium hydroxide	GMP
575	Glucono delta-lactone	GMP
334	L(+)-tartaric acid - L (+)form only	500 mg singly or in combination Tartrates as residue in biscuits and rusks
335 (i)	Mono sodium tartrate	
335 (ii)	Di sodium tartrate	
336 (i)	Mono potassium tartrate -L(+) form only	

336 (ii)	Di potassium tartrate - L(+) form only	Only for pH adjustment 440 mg singly or in combination as phosphorous
337	Potassium sodium L (+) tartrate L(+) form only	
338	Orthophosphoric acid	
339 (i)	Mono sodium orthophosphate	
339 (ii)	Di sodium orthophosphate	
339 (iii)	Tri sodium orthophosphate	
340 (i)	Mono potassium orthophosphate	
340 (ii)	Di potassium orthophosphate	
340 (iii)	Tri potassium orthophosphate	
341 (i)	Mono calcium orthophosphate	
341 (ii)	Di calcium orthophosphate	
341 (iii)	Tri calcium orthophosphate	

#### Antioxidants

306	Mixed tocopherols concentrate	300 mg/kg fat or oil basis, singly or in combination
307	Alpha-tocopherol	
304	L-ascorbylpalmitate	200 mg/kg fat
300	L-ascorbic acid	50 mg, expressed as ascorbic acid
301	Sodium ascorbate	
303	Potassium ascorbate	
302	Calcium ascorbate	20 mg, expressed as ascorbic acid

#### Raising agents

503 i	Ammonium carbonate	GMP
503 ii	Ammonium hydrogen carbonate	
500 i	Sodium Carbonate	
500 ii	Sodium hydrogen carbonate	

**Thickeners**

410	Carob bean gum	1000 mg singly or in combination
412	Guar gum	
414	Gumarabic	
415	Xanthan gum	
440	Pectins (amidated and non- amidated)	2000 mg in gluten- free cereal-based foods
1404	Oxidized starch	5000 mg  singly or in combination
1410	Mono starch phosphate	
1412	Di starch phosphate	
1413	Phosphated di starch phosphate	
1414	Acetylated distarch phosphate	
1422	Acetylated di starch adipate	
1420	Starch acetate esterified with acetic anhydride	
1450	Starch sodium octenyl succinate	
1451	Acetylated oxidized starch	

**Anticaking Agents**

551	Silicon dioxide (amorphous)	200 mg for dry cereals only
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**Packaging Gases**

290	Carbon dioxide	GMP
941	Nitrogen	



## **Contaminants**

### **5.1 Pesticide Residues**

The product shall be prepared with special care under good manufacturing practices, so that residues of these pesticides which may be required in the production, storage or processing of the raw materials or the finished food ingredient do not remain or, if technically unavoidable, are reduced to the maximum extent possible.

These measures shall take into account the specific nature of the products concerned and the specific population group for which they are intended.

### **5.2 Other Contaminants**

The product shall be free from residues of hormones, antibiotics as determined by means of agreed methods of analysis and practically free from other contaminants, especially pharma-cologically active substances.

## **6. Hygiene**

It is recommended that the products covered by the provision of this standard be prepared and handled in accordance with the appropriate sections of the recommended international code of practice-general principle of hygiene (CAC/RCP 11969), recommended International Codex of Hygienic Practice for foods for infants and children (CAC/RCP 21-1979) and other relevant codex texts such as codes of hygienic practice and codes of practice.

The product should comply with any microbiological criteria established in accordance with the principles for the establishment and application of microbiological criteria for foods (CAC/GL 21-1997).

## **7. Packaging**

7.1 The product shall be packed in containers which will safeguard the hygienic and other qualities of the food.

7.2 The containers, including packaging material, shall be made only of substances which are safe and suitable for their intended use. Where the Codex Alimentarius commission has established a standard for any such substance used as packaging material, that standard shall apply.

## **8. Labeling**

8.1.1 The requirements of the Codex general standard for the labeling of pre packaged foods (Codex standard 1-1985), the Codex guidelines on nutrition labeling (CAC/GL 2-1985) and the guidelines for use of nutrition and health claims (CAC/ GL 23-1997) apply to this standard. With specific reference to section (7) of the Codex general standard for the labeling of prepackaged foods national jurisdictions may further restrict the use of pictorial devices.

8.1.2 Taking into account paragraph (1.4) of the guidelines for use of nutrition and health claims, nutrition claims may be permitted under national legislation for the foods that are the subject of the standard provided that they have been demonstrated in rigorous studies with adequate scientific standards.

8.1.3 Any indication required in the labeling should be made in the appropriate language(s) of the country in which the product is sold.

## **8.2 The Name of the Food**

The name of the food shall be "dry cereal for infants (and/or young children)", "rusks for infants (and/ or young children)" or "biscuits (or "milk biscuits") for infants (and/or young children) "or" pasta for infants (and/or young children)", or any appropriate designation indicating the true nature of the food, in accordance with national legislation.

## **8.3 List of Ingredients**

8.3.1 A Complete list of ingredients shall be declared on the label in descending order of proportion except that in the case of added vitamins and minerals, these may be arranged as separate groups for vitamins and minerals, respectively, and within these groups the vitamins and minerals need not be listed in descending order of proportion.

**8.3.2** The specific name shall be declared for ingredients and food additives. In addition, appropriate class names for these ingredients and additives may be included on the label.

## **8.4 Declaration of Nutritive Value**

The declaration of nutrition information shall contain the following information which should be in the following order:

(a) The energy value, expressed in kilo calories (kcal) and kilo joules (kJ), and the amount of protein, carbohydrate and fat expressed in grams (g) per 100 g or 100 mL of the food as sold, and where appropriate, as per specified quantity of the food as suggested for consumption;

(b) The average amount of each vitamin and mineral for which specific levels are defined in section (3.6) and (3.7) expressed in numerical form per 100g or 100mL of the food as sold and, where appropriate, as per specified quantity of the food as suggested for consumption;

(c) Any other nutritional information required by National Legislation.

**8.4.2** The labeling may bear the average amount of the vitamins and minerals when their declaration is not covered by the provisions of section (8.4.1) (b) expressed in numerical form per 100g or 100mL of the product as sold and, where appropriate, per specified quantity of the food as suggested for consumption.

### Annex: 13

#### Microbiological Limits for Infant Formula, follow-up Formula and similar products.

Sr No	Parameters	Limits
1	Total plate count ( CFU per g)	<1000
2	Coliforms (CFU per g)	<10
3	<i>E.coli</i> (CFU per g)	Absent
4	<i>Staph. aureus</i> (CFU per g)	<10
5	<i>E. coli</i> O157 (CFU per g)	Absent
5	<i>Enterobacter sakazakii</i> ( <i>Cronobacter</i> sp.) (CFU per 10 g)	Absent
6	<i>Salmonella</i> (CFU per 25 g)	Absent
7	<i>Listeria monocytogenes</i> (CFU per 25 g)	Absent
8	<i>Bacillus cereus</i> (CFU per g)	<10
9	<i>Clostridium perfringens</i> (CFU per g)	<10
10	Yeasts/mold (CFU per g)	<10

## Chapter 14

### 14. Beverages, Excluding Dairy Products

Beverages, excluding dairy products: this major category is divided into the broad categories of non-alcoholic and alcoholic beverages.

**14.1 Soft Beverages:** This broad category includes waters and carbonated waters, fruit and vegetable juices, fruit and vegetable nectars, water- based flavored carbonated and non-carbonated drinks and water-based brewed or steeped beverages such as coffee and tea.

### 14.2 Water

#### 14.2.1 Use of Water, Ice, Steam

(1) Water shall be clean and free from contamination, objectionable taste and odour, sediments, and shall conform to the maximum permissible limits for drinking water prescribed by these regulations and Codex Alimentarius Commission.

(2) In these regulations any reference to potable water shall be taken to be a reference to "water as specified in sub-rule (1).

(3) Ice and steam shall be the product derived from water that conforms to the standard for water prescribed in sub-rule (1).

#### 14.2.2 Bottled Water or Packaged Drinking Water

Bottled water, packaged drinking water shall be potable water or treated potable water, other than natural mineral water that is hermetically sealed in bottles or other containers with naturally occurring or intentionally added minerals and it may contain naturally occurring or intentionally added carbon dioxide but shall not contain any other ingredients and is intended for human consumption. It shall conform to the following standards:

### Standard for water, bottled water and packaged drinking water

#### 1 Physical Standard:

Physical Properties	Maximum Permitted Proportion
Colour (nephelometric turbidity unit)	5 NTU
Turbidity (nephelometric turbidity unit)	0.5 NTU
Odour	Unobjectionable
Taste	Unobjectionable

#### 2 Chemical Standard

pH	6.5 to 8.5
<b>Chemicals</b>	<b>Maximum Permitted Proportion in Milligram per Litre (mg / L)</b>
Total dissolved solids (TDS)	500
Aluminium (as Al)	0.2
Ammonia (as NH <sub>3</sub> )	0.5
Antimony	0.005
Arsenic (as As)	0.01
Barium	0.7

Cadmium (as Cd)	0.003
Chloride (as Cl)	250
Chromium (as Cr)	0.05
Copper (as Cu)	1.0
Cyanide (as Cn)	0.07
Fluoride (as F)	0.7
Iron (as Fe)	0.3
Lead (as Pb)	0.01
Calcium	100
Magnesium	50
Manganese (as Mn)	0.05
Mercury (as Hg)	0.001
Nitrate (as NO <sub>3</sub> )	10
Potassium	10
Residual chlorine (free)	0.1
Selenium (Se)	0.01
Silver (as Ag)	0.1
Sodium (as Na)	50
Sulphate (as SO <sub>4</sub> )	250
Zinc (as Zn)	3

### 3 Pesticides

Pesticides	Maximum permitted proportion in milligram per litre (mg / L)
Aldrin / dieldrin	0.0020
Chlordane	0.0020
2,4-dichlorophenoxy acetic acid	0.07
Heptachlor and Heptachlor epoxide Heptachloro benzene	0.0004 0.0002
Lindane	0.0002
Methoxychlor	0.04
Carbon tetrachloride	0.0002
Dichloromethane	0.0003
P-dichlorobenzene	0.02

1,2 dichloroethene	0.02
Cis1,2 dichloroethylene	0.07
Trans-1,2 dichloro ethylene	0.1
1,2-dichloropropane	0.005
Ethylbenze	0.3
Monochlorobenze	0.05
Styrene	0.1
Tetrachloro ethylene	0.001

Toluene	1.0
1,1-1trichloroethane	0.03
1,1-2,2 tetrachloroethane	0.04
Vinyl chloride	0.002
Xylenes	1.0
Alachlor	0.002
Aldicarb	0.003
Atrazin	0.003
Carbofuran	0.04
1,2 dibromo-3 chloropropane	0.001
2,4-dichlorophenoxy acetic acid	0.07
Pentachlorophenol	0.001
Simazine	0.004
2,4,5-tp	0.01
Di (2-ethyloxy) adipate	0.08
Di (2-ethylexy) phthalate	0.006
Total trichloro benzenes	0.009
Hexa chloro benzenes	0.001
Diquat	0.02

#### 4 Bacteriological standard:

Coliform organism	Shall be zero per 250mL
<i>Escherichia coli</i>	Shall be zero per 250mL
<i>Faecal streptococci</i>	Shall be zero per 250mL
<i>Pseudomonas aeruginosa</i>	Shall be zero per 250mL
Total viable count at 22°C	Less than 100 per mL
Total viable count at 37°C	Less than 20 per mL

Note:

The sample collected after 12 hours of bottling will not be applicable for total plate count analysis (TPC)

#### (f) Radioactivity

Gross $\alpha$	0.1 bq /L
Gross $\beta$	1 bq /L

There shall be written on the label of a package containing drinking water

- (a) The words “bottled drinking water” or “bottled water” and
- (b) The name of water that, after treatment and possible replacement of carbon dioxide.

#### Packaging

1. The containers/bottles shall be hygienic suitable completely clean and shall not cause any undesirable change in taste, odour or colour or quality of the water. It can be inspected at random just prior to being filled and sealed.
2. It shall be packed in hermetically sealed containers of food grade material to prevent contamination of bottled water.
3. Filling and sealing operations of containers/bottles shall be done in an aseptic atmosphere so as to prevent any contamination.
4. Transportation. Bottled water shall be transported by any suitable means of transport to protect it from contamination.

#### Marking

In addition to the general provisions of labelling as per these regulations the following provisions shall apply:

- (a) Name of the product e.g. “bottled drinking water
- (b) Brand name or trade name if any
- (c) Net volumes in system international/metric systems
- (d) Name and address of the manufacturer
- (e) Batch number or code number
- (f) Date of expiry
- (g) Chemical composition for e.g. Sulphate, sodium, magnesium, potassium, chloride
- (h) Licence number
- (i) Date of bottling
- (j) Location and name of the source

### **14.2.3. Natural Mineral Water**

Natural mineral water shall be ground water which is obtained for human consumption from subterranean water bearing strata through spring, well, bore or other exit, with or without the addition of carbon dioxide.

#### **Natural mineral water shall be**

- (a) Obtained directly from the point of natural emergence or artificial abstraction of the water and collected under conditions which guarantee its original bacteriological purity and
- (b) Packaged or container as close as may practicable to the point of emergence of the source in accordance with good hygienic practice.
- (c) No person shall transport any natural mineral water in bulk for the purpose of processing or packaging.

Natural mineral water may only be subjected to one or more of the following treatments;

- (i) Separation from unstable constituents by decantation or filtration or by both decantation and filtration;
- (ii) Chlorination
- (iii) Dechlorination
- (iv) Aeration
- (v) Deaeration
- (vi) Carbonation
- (vii) Decarbonation
- (viii) Ultraviolet sterilization
- (ix) Pasteurization
- (x) Ozone treatment

Natural mineral water shall not contain any of the following contaminants

- (i) Phenolic compounds
- (ii) Surface active agents
- (iii) Pesticides and polychlorinated biphenyls
- (iv) Mineral oil
- (v) Polynuclear aromatic hydrocarbons

No natural mineral water shall be fortified or enriched. It shall conform to the following standards



**(a) Chemical standard**

<b>Chemicals</b>	<b>Maximum permitted Proportion in Milligram per Litre (mg/L)</b>
Arsenic	0.01
Antimony (Sb)	0.005
Barium	1.0
Borate (calculated as H BO )	1
Cadmium	0.003
Copper	1.0
Chromium (Cr)	0.05
Cyanide (calculated as Cn)	0.070
Fluoride (calculated as F)	1.5
Lead	0.010
Manganese	0.500
Mercury	0.001
Nitrate (calculated as NO <sub>3</sub> )	10.0
Nitrites (calculated as NO <sub>2</sub> )	0.020
Selenium	0.010
Sulphate	100

**(b) Bacteriological Standard:**

Coliform organism	Shall be zero per 250 mL
<i>Escherichia coli</i>	Shall be zero per 250 mL
<i>Fecal streptococci/ enterococci</i>	Shall be zero per 250 mL

There shall be written on the label of a package containing natural mineral water

(i) The words “natural mineral water” or where the product contains added carbon dioxide the words “carbonated natural mineral water”.

(ii) If the total dissolved solids content of mineral water is below 500 mg/L or if it is greater than 1,500 mg /L, the statement “low mineral content” or “high mineral content” immediately and conspicuously preceded or followed by the words “natural mineral water” or “carbonated natural mineral water” as the case may be, without intervening written, printed, graphic matter, or any other device.

(iii) The amount of total dissolved solids presents in mg/L.

(iv) The name of the mineral contents present and the amount in mg/L in which each is present

(v) The pH value of the natural mineral water; and

(vi) The location of the source and the nature of the source.

### **14.3 Code of Practice**

It is recommended that all waters covered by the provisions of this standard be collected, transported, stored, and if applicable treated, and packaged in accordance with the recommended International Code of Practice General Principles of food Hygiene (CAC/RCP 1-1991) and in accordance with the Code of Hygienic Practice for bottled /packaged drinking waters (other than natural mineral waters) (CAC/RCP 48-2001).

#### **14.3.1 Hygiene**

(a) It is recommended that the products covered by the provisions of this standard be prepared in accordance with the applicable sections of the code of Practice-General Principles of Food Hygiene (CAC/RCP 1-1969), and in accordance with the code of practice for the collecting, processing and marketing of natural mineral waters (CAC/RCP 33-1985).

(b) The source or the point of emergence shall be protected against risks of pollution.

(c) The installations intended for the production of natural mineral waters shall be such as to exclude any possibility of contamination. For this purpose, and in particular:

(i) The installations for collection, the pipes and the reservoirs shall be made from materials suited to the water and in such a way as to prevent the introduction of foreign substances into the water;

(ii) The equipment and its use for production, especially installations for washing and packaging, shall meet hygienic requirements;

(iii) If, during production it is found that the water is polluted, the producer shall stop all operations until the cause of pollution is eliminated;

#### **14.3.2 Packaging**

Natural mineral water shall be packed in hermetically sealed retail containers suitable for preventing the possible adulteration or contamination of water.

(i) No claims concerning medicinal (preventative, alleviative or curative) effects shall be made in respect of the properties of the product covered by the standards. Claims of other

beneficial effects related to the health of the consumer shall not be made unless true and not misleading.

(ii) The name of the locality, hamlet or specified place may not form part of the trade name unless it refers to a natural mineral water collected at the place designated by that trade name, use for production, especially installations for washing and packaging, shall meet hygienic requirements;

(iii) The use of any statement or of any picture which may create confusion in the mind of the public or in any way mislead the public about the nature, origin, composition and properties of natural mineral waters put on sale is prohibited.

**14.4 Table Waters and Soda Waters** Includes waters other than natural source waters that may be carbonated by addition of carbon dioxide and may be processed by filtration, disinfection, or other suitable means. These waters may contain added mineral salts. Examples are table water, bottled water with or without added minerals, purified water, seltzer water, club soda, and sparkling water.

#### **Addition of Minerals**

Any addition of minerals to water before packaging must comply with the provisions outlined in the present standard and, where applicable, with the provisions in the codex general standard for food additives (Codex Standard 192-1995) and/or the Codex general principles for the addition of essential nutrients to foods (CAC/ GL 9-1987).

**14.4.1 Soda water** shall be potable water impregnated with carbon dioxide, under pressure, with or without admixture of permissible salts of sodium, potassium, magnesium or calcium, singly or in combination and shall meet chemical specifications of natural mineral water as detailed in section (3.2). Soda water shall be deemed to be substandard and unfit for human consumption if it is manufactured from water which is unfit for drinking purpose or if, ice manufactured from such water is added to it.

**14.4.2 "Stimulant Drinks"** (formerly known as Energy Drinks, being misnomer) shall contain

- (a) Caffeine Not more than 200 ppm coming from any source or ingredient used therein.
- (b) Ginseng Not more than 100 ppm
- (c) Gruana Not more than 100 ppm

The word "Energy" being formerly used, has now been declared a misnomer on Scientific and Technical grounds is required to be replaced with appropriate word "Stimulant" by 31<sup>st</sup> December, 2018. It shall not contain any non halal ingredient. If caffeine content is more than 100 ppm it must be declared and labelled as "Highly caffeinated Drink".

It shall not contain any medicinal/pharmaceutical ingredient.

The label shall bear following precautionary/warning labeling (in both Urdu and English language):

- a) The word "Halal" shall be mentioned on the label.
- b) The phrase "Highly Caffeinated Drink" shall be mentioned on the label.
- c) Not for Pregnant Women and Children under the age of twelve (12).
- d) Not for caffeine sensitive people.

#### **14.5 Fruit and Vegetable Juices**

This category applies only to fruit and vegetable juices. Beverages based on fruit and

vegetable juices are found in food category. Fruit-vegetable juice blends have separate classifications for each component (i.e. fruit juice and vegetable juice).

#### **14.5.1 Fruit Juice**

Shall be unfermented and unconcentrated liquids expressed from edible part of sound, ripe/mature and fresh of one or more species of fruits of best quality by suitable means including any post harvest surface treatments if applied. It shall be free from artificial coloring matter, flavoring agents, mineral acids, adulterants, and preservatives. The juice may be cloudy or clear either obtained from a mixed juice or by blending two or more juices and/or puree.

Fruit juice may be obtained, e.g. by directly expressing the juice by mechanical extraction processes, by reconstituting concentrated fruit juice with water, or in limited situations by water extraction of the whole fruit (e.g. prune juice from dried prunes). Examples include: orange juice, apple juice, black currant juice, lemon juice, orange-mango juice and coconut water.

#### **14.5.2 Concentrated Fruit Juice**

Concentrated fruit juice or fruit juice concentrate shall be the expressed juice of one or more species of fruit, concentrated by physical removal of water to the extent that the product has a soluble solid content not less than double the content of the original juice and may be filtered or unfiltered. In the production of juice that is to be concentrated, suitable processes are used and may be combined with simultaneous diffusion of the pulp cells or fruit pulp by water provided that the water extracted soluble fruit solids are added in line to the primary juice, before the concentration procedure.

(1) Fruit juice concentrates may have restored aromatic substances and volatile flavor components, all of which must be obtained by suitable physical means, and all of which must be recovered from the same kind of fruit

(2) Pulp and cells (for citrus fruits, pulp or cells or the juice sacs obtained from the endocarp) obtained by suitable physical means from the same kind of fruit may be added.

#### **14.5.3 Water Extracted Fruit Juice**

Water extracted fruit juice is the product obtained by diffusion with water of:

- (a) Pulpy whole fruit whose juice cannot be extracted by any physical means, or
- (b) Dehydrated whole fruit.

Such products may be concentrated and reconstituted.

The solids content of the finished product shall meet the minimum brix level for reconstituted juice.

#### **14.5.4 Fruit Purée for use in the Manufacture of Fruit Juices and Nectars**

Fruit puree for use in the manufacture of fruit juices and nectars is the unfermented but fermentable product obtained by suitable mechanical processes. The fruit must be sound, appropriately mature, and fresh or preserved by physical means or by treatment(s) applied in accordance with the applicable provisions of the Codex Alimentarius Commission.

#### **14.5.5 Concentrated Fruit Purée for use in the Manufacture of Fruit Juices and Nectars**

Concentrated fruit puree for use in the manufacture of fruit juices and nectars is obtained

by the physical removal of water from the fruit purée in an amount sufficient to increase the brix level to a value at least 50 percent greater than the brix value established for reconstituted juice from the same fruit, as indicated in the annex.

The acidity of fruit juice, calculated as anhydrous citric acid, unless otherwise prescribed for a particular type of fruit juice, shall contain not more than 3.5 percent m/v.

The total soluble solids of fruit juice, unless otherwise prescribed for a particular type of fruit, shall not be less than 8g in 100 ml measured at 20°C (lemon as exception).

#### **14.5.6 Apple Juice**

Shall be the fruit juice of mature apple of the species *Pyrus malus*.

It shall conform other following standards:

- |                                      |   |
|--------------------------------------|---|
| (a) Soluble solids                   | Not less than 11.5g in 100 mL at 20°C                         |
| (b) Acidity calculated as malic acid | Not less than 0.3 g and not more than 0.8 g in 100ml at 20 °C |
| (c) Volatile acid                    | Not less than 0.04 mL in 100 mL at 20°C                       |
| (d) Mineral impurities insoluble     | Not more than 20 mg/kg  |

#### **14.5.7 Grape Fruit Juice**

Shall be the fruit juice of mature grape fruit of the species *Citrus paradise* or of hybrids of that species or of hybrids of the species *Citrus macfayden*. It shall conform to the following standards:

- |                                       |   |
|---------------------------------------|---|
| (a) Soluble solids                    | Not less than 9.0g in 100 mL at 20°C    |
| (b) Acidity calculated as citric acid | Not less than 1g and not more than 3.5g |
| (c) Anhydrous citric acid.            | Not more than 0.03 mL in 100 mL at 20°C |
| essential oil                         |   |
| (d) Sugar                             | Not more than 5 percent                 |

#### **14.5.8 Lime juice**

Shall be the fruit juice of mature lime of the species citrus *Auranti folia* or of hybrids of that species. It shall conform to the following standards:

- |   |   |
|---|---|
| (a) Soluble solids                              | Not less than 8.0 g in 100 mL at 20°C percent |
| (b) Acidity calculated as anhydrous citric acid | Not less than 4.0 g in 100 mL at 20°C         |
| (c) Sugar(added)                                | Not more than 5 percent                       |

#### **14.5.9 Orange/Kinnow Juice**

Shall be the fruit juice of mature orange of the species *Citrus sinensis* or *Citrus reticulate* or hybrids of these species. It shall conform to the following standards

- |   |   |
|---|---|
| (a) Soluble solids                              | Not less than 10.0 g in 100 mL at 20°C  |
| (b) Acidity calculated as anhydrous citric acid | Not less than 0.5 g in 100 mL at 20°C   |
| (c) Essential oil                               | Not more than 0.04 mL in 100 mL at 20°C |
| (d) Sugar (added)                               | Not more than 5 percent                 |

#### **14.5.10 Pineapple Juice**

Shall be the fruit juice of mature pineapple of the species *Anas comosus*. It shall conform to the following standards:

- |                    |  |
|--------------------|--|
| (a) Soluble solids | Not less than 10.0 g in 100 mL at 20°C |
|--------------------|--|

(b) Acidity calculated as  
anhydrous citric acid

Not less than 0.4 g in 100 mL at 20°C

#### **14.6 Vegetable Juice**

Vegetable juice is the liquid unfermented but fermentable product intended for direct consumption obtained by mechanical expression, crushing, grinding, and/or sieving of one or more sound fresh vegetables or vegetables preserved exclusively by physical means. The juice may be clear, turbid, or pulpy. It may have been concentrated and reconstituted with water. Products may be based on a single vegetable (e.g. carrot) or blends of vegetables (e.g. carrots and celery etc.).

#### **14.6 Concentrates for Vegetable Juice**

Prepared by the physical removal of water from vegetable juice. Sold in liquid, syrup and frozen forms for the preparation of a ready-to-drink juice by addition of water. Includes carrot juice concentrate.

#### **14.7. Fruit and Vegetable Nectars**

Fruit and vegetable nectars are beverages produced from purees, juices, or concentrates of either, blended with water and sugar, honey, syrups. Fruit-vegetable nectar blends are reported under their components (i.e. fruit nectar and vegetable nectar.)

#### **14.8 Fruit Nectar**

Means unfermented but fermentable products obtained by adding water with or without the addition of sugars or syrups, or natural sweetening agents, permitted flavours, and /or to fruit juice, concentrated fruit juice, water extracted fruit juice, fruit puree and concentrated fruit puree or to a mixture of these products. The sugars, syrups, minimum brix level for reconstituted fruit juice and minimum brix level for reconstituted puree intended to be used in nectars and minimum juice and /or puree content in the final product should also conform to Codex general standards for fruit juices and nectars (Codex standard 247-2005). The percentage of fruit juice it contains shall be clearly indicated on the label.

Products may be based on a single fruit or on fruit blends. Examples includes: pear nectar and peach nectar and mango nectar etc.

For fruit species not included in the annex, the correct botanical or common name shall apply.

#### **14.9 Vegetable Nectar**

Product obtained by adding water with or without the addition of sugar, honey, syrups, and/or permitted sweeteners to vegetable juice or concentrated vegetable juice, or a mixture of those products. Products may be based on a single vegetable or on a blend of vegetables.

The species indicated as the botanical name in the Annex 14(a) shall be used in the preparation of fruit juices, fruit purées and fruit nectars bearing the product name for the applicable fruit.

#### **14.10 Basic Ingredients of Fruit juice and Nectar**

(a) For directly expressed fruit juices, the brix level shall be the brix as expressed from the fruit and the soluble solids content of the single strength juice shall not be modified, except by blending with the juice of the same kind of fruit.

(b) The preparation of fruit juice that requires reconstitution of concentrated juices must be in accordance with the minimum brix level established in the Annex 14(a), exclusive of the solids of any added option all ingredients and additives. If there is no brix level specified in

the table, minimum brix shall be calculated on the basis of the soluble solids content of the single strength juice used to produce such concentrated juice.

(c) For reconstituted juice and nectar, the potable water used in reconstitution shall, at a minimum, meet the latest edition of the guidelines for drinking water quality of the World Health Organization (volumes 1 and 2).

#### 14.10.1 Other permitted ingredients

Except as otherwise provided, the following shall be subject to ingredient labelling requirements:

(1) Sugars with less than 2 percent moisture as defined in the standard for sugars (Codex standard 212-1999): sucrose, dextrose anhydrous, glucose, fructose, maybe added to all products.

(2) Syrups (as defined in the standard for sugars), liquid sucrose, invert sugar solution, invert sugar syrup, fructose syrup, liquid cane sugar, iso glucose and high fructose syrup may be added only to fruit juice from concentrate, honey and/or sugars derived from fruits may be added only to fruit and also in fruit and vegetable drinks.

(3) Salt and spices and aromatic herbs (and the natural extracts) may be added to tomato juice.

(4) For the purposes of product fortification, essential nutrients (e.g. vitamins, minerals) may be added to products defined in this section. Such additions shall comply with the texts of the Codex Alimentarius commission established for this purpose.

#### 14.10.2 Processing Aids-Maximum Level of use in Line with Codex guidelines and if not specified in Codex, then GMPs to be followed

Function	Substance
Anti foaming agent	Poly dimethylsiloxane
Clarify	Adsorbent clays (bleaching, natural or activated earths)
	Adsorbent resins
	Activated carbon (only from plants)
	Bentonite
	Calcium hydroxide
	Cellulose
	Chitosan
	Colloidalsilica
	Di atomaceous earth
	Gelatin (from skin collagen)

ingredient filtration aids flocculating agents	Ionexchan geresins (cationandanian)
	Isinglass
	Kaolin
	Perlite
	Poly vinyl poly pyrrolidone
	Potassium casseinat
	Potassium tartrate
	Precipitated calcium carbonate
	Silicasol
	Sodium caseinate
	Sulphur dioxide
	Tannin

(5) 10 mg/L is the maximum residue limit of the compound allowed in the final product.

(6) Only in grape juice.

(7) Use of these processing aids should take into account their allergenic potential. If there is any carryover of these processing aids in to finished product, they are subject to ingredient declaration in accordance with general standard for the labelling of prepackaged foods.

Function	Substance
Enzyme preparations	Pectinases (for breakdown of pectin), proteinases (for break down of proteins), amylases ( for breakdown of starch) and cellulases (limited use to facilitate disruption of cell walls).
Packing gas	Nitrogen
	Carbondioxide

## 14.11 Contaminants

### 14.11.1 Pesticide Residues

The products covered by the provision sof this standard should comply with those maximum residue limits for pesticides established by the Codex Alimentarius Commission for these products.

### 14.11.2 Other Contaminants

The products covered by the provisions of this standard should comply with those maximum levels for contaminants established by the Codex Alimentarius Commission for these products.

## 14.12 Hygiene



It is recommended that the products covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the recommended International Code of Practice General Principles of Food Hygiene (CAC/RCP 1-1969), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

#### **14.13 Particular Labeling Requirement of Fruit Juice:**

(1) There shall be written on the label of a package containing fruit juice or concentrated fruit juice.

(a) The name of the fruit from which the juice has been prepared, and

(b) Where the product is composed of the juice of more than one type of fruit the words "mixed fruit juice" and the name of the fruit juice present in descending order of the proportion present along with their percentage.

(c) Where sugar has been added to fruit juice or concentrated fruit juice, there shall be written on the label of a package containing such juice, the words "contains added sugar" or any other word or words having the same or similar effect.

(d) There shall be written on the label of a package containing concentrated fruit juice a statement giving direction for dilution to produce a juice of approximately the same standard as prescribed for fruit juice in these regulations.

(e) The word "concentrate" or "concentrated" shall not appear on a package containing concentrated fruit juice unless it is conjoined in uniform lettering of not less than 10 point with the words "fruit juice".

(f) There shall be written on the label of a package containing such juice prepared from concentrate, the words "(a) juice made from concentrate", "reconstituted (a) juice", or "(a) juice made from concentrated (a) juice" as the case may be, without intervening written, printed, graphic matter and any other device in equal lettering.

##### **14.13.1 Percentage Juice Declaration for Foods Purporting to be Beverages that Contain Fruit or Vegetable Juice**

This section applies to any food that purports to be a beverage that contains any fruit or vegetable juice (i.e, the product's advertising, label, or labeling bears the name of, or variation on the name of, or makes any other direct or indirect representation with respect to, any fruit or vegetable juice), or the label or labeling bears any vignette (i.e., depiction of a fruit or vegetable) or other pictorial representation of any fruit or vegetable, or the product contains color and flavor that gives the beverage the appearance and taste of containing a fruit or vegetable juice. The beverage may be carbonated or noncarbonated, concentrated, full-strength, diluted, or contain no juice.

For example, a soft drink (soda) that does not represent or suggest by its physical characteristics, name, labeling, ingredient statement, or advertising that it contains fruit or vegetable juice does not purport to contain juice and therefore does not require a percent juice declaration.

**14.13.2** If the beverage contains fruit or vegetable juice, the percentage shall be declared by the words "contains \_ percent (or %) juice" or " \_ percent (or %) juice," or a similar phrase, with the first blank filled in with the percentage expressed as a whole number not greater than the actual percentage of the juice and the second blank (if used) filled in with

the name of the particular fruit or vegetable (e.g., " contains 50 percent apple juice" or "50 percent juice").

If the beverage contains less than 1 percent juice, the total percentage juice shall be declared as "less than 1 percent juice" or "less than 1 percent juice" with the blank filled in with the name of the particular fruit or vegetable.

If the beverage contains 100 percent juice and also contains non-juice ingredients that do not result in a diminution of the juice soluble solids or, in the case of expressed juice, in a change in the volume, when the 100 percent juice declaration appears on a panel of the label that does not also bear the ingredient statement, it must be accompanied by the phrase "with added" the blank filled in with a term such as "ingredient(s)," except that when the presence of the non-juice ingredient(s) is declared as a part of the statement of identity of the product, this phrase need not accompany the 100 percent juice declaration. If a beverage contains minor amounts of juice for flavoring and is labeled with a flavor description using terms such as "flavor", "flavored" or "flavoring" with a fruit or vegetable name and does not bear:

- (1) The term "juice" on the label other than in the ingredient statement; or
- (2) An explicit vignette depicting the fruit or vegetable from which the flavor derives, such as juice exuding from a fruit or vegetable; or
- (3) Specific physical resemblance to a juice or distinctive juice characteristic such as pulp then total percentage juice declaration is not required.

**14.13.3** If the beverage does not meet the criteria for exemption from total juice percentage declaration as described in paragraph (c) of this section and contains no fruit or vegetable juice, but the labelling or colour and flavour of the beverage represents, suggests, or implies that fruit or vegetable juice may be present (e.g., the product advertising or labeling bears the name, a variation of the name, or a pictorial representation of any fruit or vegetable, or the product contains color and flavor that give the beverage the appearance and taste of containing a fruit or vegetable juice), then the label shall declare "contains zero (0) percent (or %) juice". Alternatively, the label may declare "containing (or contains) no juice "or "no juice" or "does not contain juice", the blank to be filled in with the name of the fruits or vegetables represented, suggested, or implied, but if there is a general suggestion that the product contains fruit or vegetable juice, such as the presence of fruit pulp, the blank shall be filled in with the word "fruit" or "vegetable" as applicable (e.g., "contains no fruit juice" or "does not contain fruit juice").

**14.13.4** The percentage juice declaration may also be placed on the principal display panel, provided that the declaration is consistent with that presented on the information panel. Distinct varietal de nominations may be used in conjunction with the common fruit names on the label where such use is not misleading.

Fruit nectars and mixed fruit nectars must be conspicuously labeled with a declaration of "juice content percent" with the blank being filled with the percentage of purée and/or fruit juice computed on a volume/ volume basis. The words "juice content percent" shall appear in close proximity to the name of the product in clearly visible characters, not less than 1/2 the height of the letters in the name of the juice.

An ingredient declaration of "ascorbic acid" when used as an antioxidant does not by itself constitute a "Vitamin C" claim. Any added essential nutrients declaration should be labeled in accordance with the general guide lines on claims (CAC/GL1-1979), guide lines on nutrition labelling (CAC/GL 2-1985) and the guide lines for use of nutrition claims (CAC/GL

23-1997). A pictorial representation of fruit(s) on the label should not mislead the consumer with respect to the fruit so illustrated. Where the product contains added carbon dioxide the term “carbonated” or “sparkling” shall appear on the label near the name of the product. Where tomato juice contains spices and/ or aromatic herbs the term “spiced” and/or the common name of the aromatic herb shall appear on the label near the name of the juice.

#### **14.14 Water-Based Flavored Drinks, Including “Sport,” “Energy,” or “Electrolyte” Drinks and Particulate Drinks**

Includes all carbonated and non-carbonated varieties and concentrates. Includes products based on fruit and vegetable also, include coffee, tea-and herbal-based drinks.

##### **14.14.1 Aerated Water, or Carbonated Water**

Other than soda water shall be potable water sweetened with sugar or with non-nutritive permitted sweetening agents, impregnated with carbon dioxide, under pressure, with or without admixture of salts of sodium, potassium, magnesium or calcium, singly or in combination, with or without citric acid and of the permitted flavouring and permitted colouring substances. It will meet chemical specifications of natural mineral water as detailed in (3.2). It shall also conform to the following requirements

- |                                  |                 |
|----------------------------------|-----------------|
| (a) Coliform count in 100 mL     | Nil             |
| (b) Yeast and mould count per mL | Not more than 2 |

##### **14.14.2 Carbonated Water-Based Flavoured Drinks**

Includes water-based flavoured drinks with added carbon dioxide with nutritive, non-nutritive and/or intense sweeteners and other permitted food additives. Includes gases (water-based drinks with added carbon dioxide, sweetener, and flavour), and sodas such as colas, pepper-types, root beer, lemon-lime, and citrus types, both diet/light and regular types. These beverages may be clear, cloudy, or may contain particulated matter (e.g. Fruit pieces). Includes so-called “energy” drinks (now called “stimulant” drinks) that are carbonated and contain high levels of nutrients and other ingredients (e.g. caffeine, carnitine). Carbonated fruit beverages or carbonated fruit drink means any beverage or drink which is purported to be prepared from fruit juice and/or water or carbonated water and containing sugar, dextrose, invert sugar or liquid glucose either singly or in combination or permitted sweetening agents. It may contain peel oil and permitted food flavors and permitted food colours. It may also contain any other ingredients appropriate to the products such as acidulents. The product may contain permitted food preservatives in prescribed dose level. The product shall conform to the microbiological requirements given in these regulations and shall meet the following requirements

- |                                |                           |
|--------------------------------|---------------------------|
| (a) Total soluble solids (m/m) | Not less than 5.0 percent |
| (b) Fruit content (m/m)        | Not less than 5.0 percent |

The product shall have the colour, taste & flavour characteristic of the product & shall be free from extraneous matter.

The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container (at 20°C), when packed in the rigid containers.

#### **14.14.3 Non-Carbonated Water-Based Flavoured Drinks, Including Punches and Ades**

Include water-based flavoured drinks without added carbon dioxide, fruit and vegetable juice-based drinks (e.g. almond, aniseed, coconut-based drinks, and ginseng drink), fruit flavours (e.g. lemonade, orangeade), squashes (citrus-based soft drinks), capilegroselha, lactic acid beverage, ready-to-drink coffee and tea drinks with or without milk or milk solids, and herbal-based drinks (e.g. iced tea, fruit-flavoured iced tea, chilled canned cappuccino drinks) and “sports” drinks containing electrolytes. These beverages may be clear or contain particulated matter (e.g. fruit pieces), and may be unsweetened or sweetened with sugar or a permitted non-nutritive high-intensity sweetener. Includes so-called “energy” drinks that are non-carbonated and contain high levels of nutrients and other ingredients (e.g. caffeine, carnitine).

#### **14.14.4 Fruit Beverage or Fruit Drink**

any beverage or drink which is purported to be prepared from fruit juice and potable water, by whatever name it is called, and containing sugar, dextrose, invert sugar, or liquid glucose, either singly or in combination with or without permitted sweetener and with or without peel oil, permitted food flavours citric acid, ascorbic acid, permitted food additives. It shall contain total soluble solid not less than 10 percent and not less than 8 percent of fruit contents in the final product. The percentage of fruit juice, it contains shall be clearly indicated on the label.

There shall be written on the label of a package containing fruit beverage, fruit drink, fruit crush:

(a) Where the product is composed of the juice and other edible portions of only one type of fruit, the name of the fruit from which it has been prepared; and

(b) Where the product is composed of the juice and other edible portions or more than one type of fruit, the words “mixed fruit drink”, “mixed fruit beverage”, “mixed fruit crush” as the case may be. There shall be written on the label of a package containing fruit beverage, fruit drink, fruit crush where the product is composed of the juice and other edible portions of only one type of fruit, the name of the fruit from which it has been prepared; and where the product is composed of the juice and other edible portions or more than one type of fruit, the words mixed fruit drink, mixed fruit beverage, mixed fruit crush as the case may be.

#### **14.14.5 Flavoured Drink**

Means any beverage or drink which is purported to be composed of potable water with sugar, dextrose, invert sugar, or liquid glucose, high fructose glucose, either singly or in combination with or without permitted sweetener and with or without peel oil, permitted essence, citric acid, ascorbic acid, permitted additives. It shall contain total soluble solids not less than 5 percent.

(1) There shall be written on the label of a package containing flavoured drink the words “flavoured drink” or the name of such flavour in uniform lettering of not less than 10-point lettering conjoined with the words “flavoured drink”.

(2) The label of a package of a flavoured drink shall not include

(a) any expression, pictorial representation or design that indicates, suggests, implies that the drink consists / contains wholly or partly of fruit juice; or

(b) A pictorial representation or design of fruit or a floral design that indicates, suggests or

implies the presence of fruit or fruit juice in the flavoured drink

#### **14.14.6 Reduced Calorie Fruit Drink**

Any beverage or drink which is purported to be prepared from fruit juice and potable water or carbonated water, dextrose, invert sugar, or liquid glucose and natural/permitted sweeteners, either singly or in combination and with or without peel oil, Codex permitted flavors either natural, natural identical or artificial, citric acid, ascorbic acid, permitted preservatives and permitted colors. It shall contain total soluble solids not less than 7 percent and fruit contents not less than 8 percent in the final product. The standard caloric value mandatory for reduced calorie drink will not exceed 100kcal. The percentage of fruit juice it contains shall be clearly indicated on the label. There shall be written on the label of a package containing reduced calorie fruit beverage. Where the product is composed of the juice and other edible portions of only one type of fruit, the name of the fruit from which it has been prepared; and where the product is composed of the juice and other edible portions or more than one type of fruit, the words “reduced calorie mixed fruit drink”, “reduced calorie mixed fruit beverage” as the case may be.

#### **14.14.7 Fruit Based Beverage mix/ Powdered Fruit Based Beverage:**

1.Fruit based beverage mix/powdered fruit based beverage means a product, in powder form, intended for use after reconstitution, obtained by blending fruits solids with nutritive /non-nutritive sweeteners and other ingredients appropriate to the product & packed in hermetically sealed containers to prevent spoilage. It shall have colour & flavor characteristic of the named fruit. It may contain vitamins and minerals.

It shall meet the following requirements

- |   |                           |
|---|---------------------------|
| (a) Moisture (m/m)  | Not more than 5.0 percent |
| (b) Fruit juice content (m/m) when reconstituted by dilution according to direction for use | Not less than 8.0 percent |

#### **14.14.7.1 Flavored Powder Drink**

Means any beverage or drink which is purported to be composed of sugar, dextrose, invert sugar, high fructose glucose, either singly or in combination, non-nutritive sweetener and with or without peel oil, natural/natural identical/artificial essence, citric acid, ascorbic acid, permitted food additives and moisture should not be more than 5 percent. It shall contain total soluble solids not less than 5 percent after reconstitution as per label instructions. It shall conform to labeling requirements and shall not have any picture of fruit or expression that may mislead consumer about its contents or health benefits.

#### **14.15 Coffee, Coffee Substitutes, Tea, Herbal Infusions, and other Hot Cereal and Grain Beverages, Excluding Cocoa**

Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa: includes the ready-to-drink products (e.g. canned), and their mixes and concentrates. Examples include: chicory-based hot beverages, rice tea, mate tea, and mixes for hot coffee and tea beverages (e.g. instant coffee, powder for hot cappuccino beverages). Treated coffee beans for the manufacture of coffee products are also included.

##### **14.15.1 Tea**

Means the fermented, dried and sound processed leaves and buds of various species of tea belonging to genus *Camellia* and free from tea waste, any other foreign matter, impurities, harmful substances and any colouring matter, but may contain tea stalks to a maximum of 10 percent. The product shall have characteristic flavour free from any off odour, taint and mustiness. It shall be free from living or dead insects, moulds, insect fragments, and

rodent contamination visible to the naked eye (corrected if necessary for abnormal vision).

Provided that the tea may contain "natural flavours" and "natural flavouring substances" which are flavor preparations and single substance respectively, acceptable for human consumption, obtained exclusively by physical processes from materials of plants origin either in their natural state or after processing for human consumption in packaged tea only. Tea containing any flavour shall bear proper label declaration as provided in these regulations. Tea used in the manufacture of flavoured tea shall conform to the standards of tea and shall be labeled as flavored tea.

Pectinase enzyme can be added up to a level of 0.2 percent during manufacture as processing aid. The product shall conform to the following requirements in which all the figures given are expressed on the basis of the material oven-dried at  $103\pm 2^{\circ}\text{C}$ .

(i) Water extract	33 percent minimum
(ii) Total ash	4 to 8 percent
(iii) Ratio of soluble to total ash	45 percent minimum
(iv) Alkalinity of ash (as K O)	1.5 to 2.0 percent
(v) Ash insoluble in acid	0.8 percent maximum
(vi) Crude fiber	16.5 percent minimum
(vii) Caffeine	2.5 percent minimum
(viii) Tannin	10 percent minimum
(ix) Moisture	Not more than 8 percent

#### 14.15.2 Green tea

Means the product derived solely and exclusively, and produced by acceptable processes, enzyme inactivation, rolling or comminution and drying, from the leaves, buds and tenders terms of varieties of the species *Camelia sinensis* (l) known to be suitable for making tea for consumption as a beverage. The product shall have characteristic flavor free from any offensive odour, taint and mustiness. It shall be free from living or dead insects, moulds, insect fragments and rodent contamination visible to the naked eye (corrected if necessary for abnormal vision). The product shall be free from extraneous matter, added colouring matter and harmful substances;

Provided that the tea may contain "natural flavours" and "natural flavouring substances" which are flavor preparation and single substance respectively, acceptable for human consumption, obtained exclusively by physical processes from material of plants origin either in their natural state or after processing for human consumption in packaged tea only, Tea containing flavor shall be proper label declaration as flavored tea. The product shall conform to the following requirements in which all the figure given are expressed on the basis of the material oven-dried at  $103\pm 2^{\circ}\text{C}$ .

(i) Total ash (m/m)	Not less than 4.0 percent
(ii) Water-soluble ash	Not less than 45.0 percent of total ash of
(iii) Alkalinity of water-soluble ash	Not less than 1.0 percent of total ash
(expressed as KOH (m/m))	and not more than 3.0 percent
(iv) Acid-insoluble ash (m/m)	Not more than 1.0 percent
(v) Water-extract (m/m)	Not less than 32.0 percent
(vi) Crude fibre (m/m)	Not less than 16.5 percent
(vii) Total catechins (m/m)	Not less than 9.0 percent

#### 14.15.3 Tea Extract, Instant Tea or Soluble Tea

Tea extract, instant tea or soluble tea is dried product made exclusively by the aqueous

extraction of tea. It shall not contain total ash more than 4.0 percent and not more than 8.0 percent of water, shall contain not less than 4 percent of caffeine, not less than 7 percent of tannin and shall dissolve in boiling water in 30 seconds with moderate stirring and the infusion shall have the colour, taste and flavor of freshly brewed tea.

#### **14.15.4 Coffee**

Means cultivated varieties of *Coffee arabica*, *Coffee Liberia*, *Coffee robusta* which must have the characteristic appearance under the microscope and shall be free from any artificial colouring matter and flavour, facing or glazing substance.

#### **14.15.5 Green Coffee, Raw Coffee, Unroasted Coffee**

Means properly cleaned green coffee seed which by the action of heat (roasting) has become brown and has developed its characteristic aroma.

#### **14.15.6 Roasted Coffee**

Means properly cleaned green coffee seed which by the action of heat (roasting) has become brown and has developed its characteristic aroma.

#### **14.15.7 Ground Coffee**

Means the powdered product obtained from roasted coffee only, and shall be free from husk. Coffee, green coffee, raw coffee, unroasted coffee, roasted coffee. Ground coffee shall conform to the following standards:

1. Moisture (on dry basis) m/m	Not more than 5.0 percent
2. Total ash (on dry basis) m/m	3.0 to 6.0 percent
3. Acid in soluble ash (on dry basis) m/m	Not more than 0.1 percent
4. Water soluble ash (on dry basis) m/m	Not less than 65 percent
5. Alkalinity of soluble ash in milliliters of 0.1 N HCl per gram of material (on dry basis) m/m	Not less than 3.5 mL and Not more than 5.0 mL
6. Aqueous extracts on dry basis m/m	Not less than 26.0

#### **14.15.8 Coffee Chicory Mixture**

Means a mixture of coffee seed with chicory (dried roasted root of *Cichorium intybus* Linn) in equal proportion and shall be in sound dry and dust free condition with no rancid or obnoxious odour. It shall contain caffeine not less than 0.6 percent.

#### **14.15.9 Liquid Coffee Essence**

Shall contain not less than 0.5 percent weight in volume of caffeine derived from coffee and free from extractives from any roasted vegetable matter other than coffee.

#### **14.15.10 Instant Coffee or Soluble Coffee**

Means the dried soluble solids obtained from water-extraction of freshly roasted, pure coffee beans. It shall be in the form of free flowing powder or granule having the colour, taste and flavour characteristic of coffee. It shall be free from impurities and shall not contain chicory or any other substance. It shall conform to the following standards:

(i) Moisture	Not more than 5.0 percent
(ii) Total ash (on dry basis)	Not more than 12.0 percent
(iii) Caffeine content (on dry basis)	Not less than 2.8 percent

(iv) Solubility in boiling water	Dissolves readily in 30 seconds with moderate stirring
(v) Solubility in cold water 16±2°C	Soluble in 3 minutes with moderate stirring

#### 14.15.11 Instant Coffee Chicory Mixture

Means the product manufactured from roasted and ground coffee and roasted and ground chicory. It shall be in the form of a free flowing powder having the colour, taste and flavour characteristics of coffee-chicory powder. It shall be free from any impurities and shall not contain any other added substance. It shall conform to the following standards:

(i) Moisture	Not more than 5.0 percent
(ii) Total ash	Not less than 7.0 percent and not more 10 percent
(iii) Caffeine content	Not less than 1.4 percent

Any package containing instant coffee-chicory mixture shall have affixed to it a label upon which shall be printed the following declaration

Instant coffee-chicory Mixture made from blends of

Coffee	----- %
Chicory	-----%

#### 14.15.12 Coffee Mixture

Means ground coffee mixed with other ground food substances. Such mixtures shall contain not less than 50 percent coffee and shall not contain any harmful substance. A package which contains any mixture of coffee and substances other than chicory, a statement in which the words coffee mixture shall be printed in larger letters than any other words on the label, immediately followed by a statement of the ingredients of the mixture and of the proportion in which the ingredients of the mixture are present, printed in the following form.

(a) Contains (here insert the number of parts percent of coffee) parts percent of coffee mixed with (here insert the number of parts percent of other ingredients) parts percent of (here insert the names of such other ingredients).

(b) The word coffee and expressions which include the word coffee shall not be printed on any statement or label printed on, or attached to any package which contains a mixture of coffee with substances other than chicory unless it be conjoined with the word mixture.

#### 14.15.13 Coffee and Chicory Essence

Shall be free from extractives from any roasted vegetable matter other than coffee or chicory and shall contain not less than 0.5 percent weight in volume of caffeine derived from coffee. There shall be written on the label of a package containing liquid coffee essence or coffee and chicory essence-in larger letter than those of any other words on the label, the words liquid coffee essence or coffee and chicory essence, as the case may be.

The word coffee shall not appear on the label of a package containing liquid coffee essence or coffee and chicory essence unless it is proceeded by the word Liquid in the case of liquid coffee essence, and is conjoined with the words and chicory essence in the case of coffee and chicory essence.



**14.15.14 Cocoa bean**, means the properly fermented, dried wholesome seed of the cocoa tree the *Obromaca caol*.

**14.15.15 Cocoa nib or cracked cocoa**

Means the roasted cocoa bean freed from its shell or husk, with or without the germ.

**14.15.16 Cocoa paste, Cocoa mass, Cocoa Alabor or Cocoa Liquor**

Means the solid or semi-solid mass produced by grinding wholesome cocoa nibs. It shall contain not less than 48 percent of cocoa fat. Cocoa fats, Cocoa mass, cocoa Alabor and cocoa liquor on water-free and fat free basis shall conform to the following standards

(i) Starch	(naturally present)	Not more than 19 percent
(ii) Crude fiber		Not more than 7 percent
(iii) Ash		Not more than 8 percent
(iv) Ash insoluble in water		Not more than 5.5 percent
(v) Ferric oxide		Not more than 0.4 percent

**14.15.17 Cocoa Butter**

Means the fat obtained by expression from the nibs of wholesome beans of the *Obroma cocoa*. It shall be free from other oils and fats, mineral oil and add colors. It shall conform to the following standards

(i) Refractive index of extracted Fat t 40°C.	1.456 to 1.459
(ii) Melting point	29 °C to 34°C
(iv) free fatty acids (as oleic acid)	Not more than 1.5 percent
(iv) Saponification	188 to 200
(v) Iodine value	32 to 42

**14.15.18. Cocoa or Cocoa Powder or Soluble Cocoa**

Means the powder which is the partially defatted product from the cocoa bean, the seed of the *Obroma cocoa*. It may be subjected to treatments during manufacture with alkali and /or magnesium carbonate, bicarbonate and with tartaric, citric or phosphoric acids. It shall be free from rancidity, dirt, filth insects and insect fragments or fungus infestations. It shall conform to the following standards:

(i) Total ash (on moisture and fat free basis)	Not more than 12.5 percent
(ii) Ash (soluble in Hydrochloric acid)	Not more than 1 percent
(iii) Acidity of Ash (as K <sub>2</sub> O)	Not more than 6 percent

**14.16 Fruit Syrups, Squashes and Cordials**

**14.16.1 Fruit Syrups**

Means sweetened fruit juice containing sugar, dextrose, invert sugar or liquid glucose, high fructose syrup, either singly or in combination, with or without potable water, peel oil, fruit essences (derived from fruits), natural flavors only, common salt, citric acid, ascorbic acid, permitted preservatives and permitted colors. It shall contain not less than 65 percent of total soluble solid and not less than 25 percent of fruit juice in the finale product. The percentage of fruit juice it contains shall be clearly indicated on the label.

#### 14.16.2 Fruit Squash

Means the expressed juice of the sound ripe fruit with the pulp containing sugar, dextrose, invert sugar or liquid glucose, high fructose glucose either singly or in combination in combination, with or without portable water, peel oil, fruit essences (derived from fruits) natural flavors only, common salt, citric acid, ascorbic acid, permitted preservatives and permitted colors. It shall contain not less than 40 percent of total soluble solid and not less than 25 percent of fruit juice in the finale product. The percentage of fruit juice it contains shall be clearly indicated on the label. The acidity of finish product shall conform to the standards prescribed for fruit juice.

#### 14.16.3 Flavoured Syrup or Flavoured Cordial

Means the soft drink composed of syrup and natural flavouring substances with or without edible portions or extracts of one or more types of fruit or other plant substance. It may contain permitted preservative, permitted colouring substance and permitted food conditioners.

#### **Annex: Microbiological Limits for Fruit Juices, Nectar, Carbonated and Non-Carbonated beverages**

Designation	Non- Carbonated	Carbonated
Total plate count/g	<1000	<200
Coliform/g	<10	<10
<i>E. coli</i> /g	Absent	Absent
<i>Listeria Monocytogenes</i> /25g	Absent	Absent
Yeast/mold	<100	<10

**Note:** Non-alcoholic beverages (soft drinks, energy drinks & iced tea) = TPC should be <100/ mL, yeast/mould<10 and cliforms absent.

#### 14.17 Alcoholic Beverages

Alcoholic beverages and related product containing any amount of alcohol shall only be manufactured, sold, stored, and distributed under license and concerned legal provisions of the Islamic Republic of Pakistan.

The label of alcoholic drinks must mention the following statements and sign:

- “Alcohol drinking may lead to liver damage, kidney failure and lungs failure”.



#### **Definitions:**

**Alcohol by Volume (ABV)** means ethyl alcohol (ethanol) content in an alcoholic beverage expressed as a percentage of total volume.

**Alcohol by Weight (ABW)** means the weight of ethyl alcohol (ethanol) expressed as a percentage of total mass.

**Alcoholic beverage** means a beverage or a liquor or brew containing ethyl alcohol (ethanol). The ethyl alcohol used in the production of alcoholic beverages shall be of agricultural origin. It is of two types

**(a) Distilled Alcoholic Beverage** means a distilled beverage, spirit, or liquor containing ethanol that is made by distilling ethanol produced by fermentation of cereal grain, fruit, vegetables, molasses or any other source of carbohydrates.

**(b) Un-distilled Alcoholic Beverages** means fermented un-distilled alcoholic beverages such as beer. **Brewery** means premises where beer is brewed, stored or issued.

**Denatured Alcohol** means ethanol rendered unfit for human consumption by addition of methanol or acetone or any other permissible denaturants.

**Distilled Liquor or Spirits** means any alcoholic liquid obtained by distillation of fermented liquid or mashed pending upon the product, distilled at not less than 95 percent (volume/volume) of ethyl alcohol.

**Distillery** means a premise where spirit is distilled, stored or issued.

**Ethyl alcohol or Ethanol** means a transparent, colourless, flammable, volatile liquid miscible with water, ether or chloroform and obtained by the fermentation of carbohydrate with yeast. It is the major ingredient of alcoholic beverages and is potable. Ethyl alcohol is having the chemical formula of  $C_2H_5OH$ , having burning taste and the intoxicating component of alcoholic beverages.

**Fermented Liquor** means the liquor obtained by the process of fermentation.

**Hops** means dried ripe female flowers of the hop plant (*Humulus lupulus*), used to give a bitter taste to beer. Hops are used in the form of flowers, extract, pellets or hop oil of different alpha acids.

**Methyl Alcohol or Methanol** means a clear, colourless, flammable liquid having chemical formula,  $CH_3OH$  Ingestion of which above the specific limits may cause blindness or death.

**Neutral Grain Spirit or Pure Grain Alcohol (PGA) or Grain Neutral Spirit (GNS)**

means a clear, colorless, flammable liquid that has been distilled from a grain-based mash at a minimum of 95 percent (volume/volume) of ethyl alcohol.

**Neutral Spirit or Neutral Alcohol** means distillation and rectification, with a minimum alcoholic strength of 95 percent (volume/volume) of ethyl alcohol, either after alcoholic fermentation, agricultural products.

**Rectified Spirit** means spirit purified by distillation to achieve strength of not less than 95 percent (volume/volume) of ethyl alcohol.

## **Yeast**

Means unicellular fungi responsible for fermentation to produce alcoholic beverages. Yeast metabolizes the fermentable sugars to produce mainly alcohol and carbon dioxide.

The words and expressions used but not defined in these regulations shall have the same meaning respectively assigned to them in the Act and regulations made there under.

## **14.17.1 Distilled Alcoholic Beverage Standards**

### **14.17.1.1 Brandy**

Is a mixture of grape brandy concentrate blended with neutral spirit or rectified spirit

#### **Requirements:**

- (a) Brandy shall be free from chloral hydrate, ammonium chloride, diazepam, paraldehyde or any other types of narcotic, psychotropic substances including caffeine which, when mixed with alcohol, is injurious to health.
- (b) The ethyl alcohol content of brandy shall be in the range of 36 to 50 percent by volume at 20°C. The tolerance limit for ethyl alcohol content shall be  $\pm 3.0$  percent, by volume of the declared strength.
- (c) The water used for dilution to bottling shall be de-ionized or from reverse osmosis filter and hardness should be less than 10 ppm.
- (d) The brandy shall also conform to the requirements specified in Annex (14b).

### **14.17.1.2 Gin**

The gin is distilled alcoholic beverage made from neutral spirit flavoured with volatile products of juniper berries and other botanicals and aromatics. It shall be clear and shall not develop any turbidity on being diluted with water. It may be added with flavours such as natural or nature identical or artificial flavours with or without permitted colours and additives. It may develop haziness on dilution with water due to presence of natural ingredients.

#### **Requirements**

- (i) Gin shall be free from chloral hydrate, ammonium chloride, diazepam, paraldehyde, caffeine or any other types of narcotic, psychotropic substances which, when mixed with alcohol, is injurious to health.
- (ii) The ethyl alcohol content of gin shall be in the range of 36 - 50 percent by volume at 20°C the tolerance limit for ethyl alcohol content shall be  $\pm 3.0$  percent, by volume of the declared strength.
- (iii) The water used for dilution to bottling shall be de-ionized or from reverse osmosis filter and hardness should be less than 10 ppm.

### **14.17.1.3 Rum:**

Rum is an alcoholic distillate obtained from fermented juice of sugarcane, sugarcane molasses, any other sugarcane product, sugar beet or sugar beet molasses and shall not contain any colouring matter other than caramel. It may also be prepared from neutral, rectified, distilled spirit or a mixture of any combination thereof.

### **14.17.1.4 Flavoured Rum**

Flavoured rum is an alcoholic beverage made out of rum and flavourings (spices or fruits), with or without permitted colour and with or without added sugar.

#### **Requirements**

- (i) Rum shall be free from chloral hydrate, ammonium chloride, diazepam, paraldehyde or any other types of narcotic, psychotropic substances including caffeine which, when mixed with alcohol, is injurious to health.
- (ii) The ethyl alcohol content of rum shall be in the range of 36 to 50 percent by volume at 20°C the tolerance limits for ethyl alcohol content shall be  $\pm 3.0$  percent by volume of the declared strength.
- (iii) The rum shall also conform to the requirements specified in Annex (14b).

(iv) The water used for dilution to bottling shall be de-ionized or from reverse osmosis filter and hardness should be less than 10 ppm.

#### **14.17.1.5 Vodka**

Vodka is the distilled alcoholic beverage made from neutral spirit which shall be obtained from agricultural products. It shall be with or without colour or flavour or additives permitted.

##### **Requirements**

(i) Vodka shall be free from chloral hydrate, ammonium chloride, diazepam, paraldehyde, caffeine or any other types of narcotic, psychotropic substances\* which, when mixed with alcohol, are injurious to health.

(ii) The ethyl alcohol content of vodka shall be in the range of 36 to 50 percent by volume. The tolerance limit for ethyl alcohol content shall be  $\pm 3.0$  percent by volume of the declared strength.

(iii) The vodka shall also conform to the requirements specified in Annexure (14b).

(iv) The water used for dilution to bottling shall be de-ionized or from reverse osmosis filter and hardness should be less than 10 ppm.

#### **14.17.1.6 Whisky or Whiskey**

Whisky is an alcoholic beverage made from neutral grain spirit or rectified grain spirit, or neutral spirit or their mixture or is made by distilling the fermented extract of malted cereal grains or molasses. It shall be with or without caramel colour or additives permitted.

##### **Requirements**

(i) Malt whisky, when labelled as matured, shall be matured for a period of not less than one year in wooden oak, wooden vats or barrels.

(ii) Malt whisky, when labelled as matured, shall contain malt or grain whisky matured for a period of not less than one year in oak vats or barrels in the blend.

(iii) Whisky shall be free from chloral hydrate, ammonium chloride, diazepam, paraldehyde or any other types of narcotic, psychotropic substances including caffeine which, when mixed with alcohol, are injurious to health.

(iv) The ethyl alcohol content of whisky shall be in the range of 36 to 50 percent by volume at 20°C the tolerance limits for ethyl alcohol content shall be  $\pm 3.0$  percent by volume of the declared strength.

(v) The whisky shall also conform to the requirements specified in annexure (14b).

(vi) The water used for dilution to bottling shall be de-ionized or from reverse osmosis filter and hardness should be less than 10 ppm.

#### **14.17.2 Standards for Beer**

##### **14.17.2.1 Beer:**

Beer is un-distilled alcoholic beverage made from any malted grain but commonly from barley malt, with hops or products obtained from hops to impart a bitter flavor and sometimes added with adjuncts like wheat, maize, corn rice and sugar.

##### **Requirements**

(i) Beer shall have clarity with characteristic colour and form of its type. It shall be bottled, canned or kegged and effectively pasteurized.

(ii) It shall be free from chloral hydrate, ammonium chloride, diazepam, paraldehyde or any other types of narcotic, psychotropic substances including caffeine which, when mixed with alcohol are injurious to health.

(iii) It shall be free from coliform and other pathogenic microorganisms.

### 14.17.3 Specific Labelling Requirements for Alcoholic Beverages

In addition to the applicable general labeling related regulations, every package containing alcoholic beverages shall also bear the following on the label.

#### Declaration of Alcohol by Volume (ABV) Alcohol Content

Alcohol content shall be expressed in mL /100 mL; or % v/v; or % vol or % ABV or % vol. No alcoholic beverage shall contain nutritional information on label

The label of a package of a beverage containing any amount of alcohol by volume must not include the words "non-intoxicating" or words implying similar meaning.

Food containing alcohol must not be represented in a form which expressly or by implication suggests that the product is a non-alcoholic confection or non-alcoholic beverage.

#### Annexure-14 (a)

#### Minimum Juice and/or Purée Content for Fruit Nectars (%v/v) at 20°C

Botanical Name	Fruit's common Name	Minimum Brix Level for Reconstituted Fruit Juices	Minimum Juice and/or Purée Content (%v/v) for Fruit Nectars
<i>Actinidia deliciosa</i> (A.chev.) CF Liang and A.R.ferguson	Kiwi	(*) <sup>16</sup>	(*) <sup>16</sup>
<i>Anacardium occidentale</i>	Cashew apple	11.5	25.0
<i>Ananas comosus</i> (L.) Merrill <i>Ananassativis</i> L. schult.f.	Pineapple	12.8 <sup>17</sup> It is recognized that in different countries, the brix level may naturally differ from this value. In cases where the brix level is consistently lower than this value, reconstituted juice of lower brix from these countries introduced into international trade will be acceptable, provided it meets the authenticity methodology listed in the general standard for fruit juices and nectars and the level will not be below 10°brix for pineapple juice and apple juice.	40.0

<i>Annona muricata</i>	Soursop	14.5	25.0
<i>Annona squamosa</i>	Sugar apple	14.5	25.0
<i>Averrhoa carambola</i>	Carambola/star fruit	7.5	25.0
<i>Carica papaya</i>	Papaya	(*) <sup>16</sup>	25.0

<b>Hrysophyllumcainito</b>	<b>Star apple</b>	(*) <sup>16</sup>	(*)
<i>Citrullus lanatus</i> (thunb.) Matsum. & nakaivar. <i>lanatus</i>	Watermelon	8.0	40.0
<i>Citrus aurantifolia</i> (christm.)(swingle)	Lime	8.0 <sup>17</sup>	According to the legislation of the importing country
<i>Citrus aurantium</i>	Sour orange	(*) <sup>16</sup>	50.0

(14) For the purposes of the standard the brix is defined as the soluble solids content of the juice as determined by the method found in the section on methods of analysis and sampling.

(15) If a juice is manufactured from a fruit not mentioned in the above list ,it must, never the less, comply with all the provisions of the standard, except that the minimum brix level of the reconstituted juice shall be the brix level as expressed from the fruit used to make the concentrate.

(16) No data currently available. The minimum brix level of the reconstituted juice shall be the brix level as expressed from the fruit used to make the concentrate.

(17) Acid corrected as determined by the method for total titratable acids in the section on methods of analysis.

Botanical Name	Fruit's Common Name	Minimum Brix Level for Reconstituted Fruit Juices and Reconstituted Purée	Purée Content (%v/v) for Fruit Nectars
<i>Citrus limon (L.)Burm.f. citrus limonumrissa</i>	Lemon	8.0 <sup>17</sup>	According to the legislation of the Importing country
<i>Citrus limon (L.)Burm.f. citrus limonumrissa</i>	Grape fruit	10.0	50.0
<i>Citrus paradisi, citrus grandis</i>	Sweetie grape fruit	10.0	50.0
<i>Citrus reticulatablanca</i>	Mandarine/tangerine	11.8 <sup>17</sup>	50.0
<i>Citrus sinensis (L.)</i>	Orange	11.8-11.2 <sup>17</sup> And consistent with the application of national legislation of the importing country but not lower than 11.2. It is recognized that in different countries, the brix level may naturally differ from this range of values. In cases where the brix level is consistently lower than this range of values , reconstituted juice of lower brix from these countries introduced in to international trade will be acceptable, provided it meets the authenticity methodology listed in the general standard for fruit juices and nectars	50.0
<i>Cocos nuciferal.</i>	Coconut	5.0	25.0
<i>Cucum ismelol.</i>	Melon	8.0	35.0
<i>Cucum ismelolsubsp. melo Var.inodorush.jacq.</i>	Casaba melon	7.5	25.0
<i>Cucum ismelol.subsp.melo Var.inodorush.jacq.</i>	Honeydew melon	10.0	25.0
<i>Cydonnia oblongamill.</i>	Quince	11.2	25.0
<i>Diospyros khakithunb.</i>	Persimmon	(*) <sup>16</sup>	40.0
<i>Empetrum nigruml.</i>	Crow berry	6.0	25.0
<i>Eriobotrya japonesa</i>	Loquat	(*) <sup>16</sup>	(*) <sup>16</sup>
<i>Eugeniasyring</i>	Guavabey Birchberry	(*) <sup>16</sup>	(*) <sup>16</sup>



		(*) <sup>16</sup>	(*)
<i>Eugeniauni florarich.</i>	Suriname cherry	6.0	25.0
<i>Ficus carical.</i>	Fig	18.0	25.0

Botanical Name	Fruit's Common Name	Minimum Brix Level for Reconstituted Fruit Juices and Reconstituted Purée	Minimum Juice and/or Purée Content (%v/v) for Fruit Nectars
<i>Fortunellaswinglesp</i>	Kumquat	(*) <sup>16</sup>	(*) <sup>16</sup>
<i>Fragaria x. ananassa duchense</i> ( <i>fragaria chiloensis</i> duches nex <i>fragaria</i> <i>virginiana</i> duchesne)	Strawberry	7.5	40.0
<i>Genipa americana</i>	Genipap	17.0	25.0
<i>Hippophae elaeagnaceae</i>	Seabuckthorn	(*) <sup>16</sup>	25.0
<i>Hippophae rhamnoides</i> L.	Buckthornberry= sallow-thornberry	6.0	25.0
<i>Litchi chinensis</i> Sonn.	Litchi/lychee	11.2	20.0
<i>Lycopersicon esculentum</i> L.	Tomato	5.0	50.0
<i>Malpighia</i> sp. (moc. & sesse)	Acerola (west indian cherry)	6.5	25.0
<i>Malus domestica</i> Borkh.	Apple	11.5 It is recognized that in different countries, the brix level may naturally differ from this range of values. In cases where the brix level is consistently lower than this range of values, reconstituted juice of lower brix from these countries introduced in to international trade will be acceptable, provided it meets the authenticity methodology listed in the general standard for fruit juices and nectars and the level will not be	50.0
<i>Malus prunifolia</i> (Willd.) Borkh. <i>Malus sylvestris</i> Mill.	Crab apple	15.4	25.0
<i>Mammea americana</i>	Mammea pple	(*) <sup>16</sup>	(*) <sup>16</sup>
<i>Mangifera indica</i> L.	Mango	13.5	25.0
<i>Morus</i> sp.	Mulberry	(*) <sup>16</sup>	30.0

<i>Musa species</i> Including <i>M.acuminata</i> and <i>M.paradisiaca</i> but excluding other plantains	Banana	(*) <sup>16</sup>	25.0
<i>Passiflora edulis</i>	Yellow passion fruit	(*) <sup>16</sup>	(*) <sup>16</sup>
<i>Passiflora edulis</i> ssp. <i>edulis</i> <i>Passiflora edulis</i> ssp. <i>Flavicarpa</i>	Passion fruit	12 17	25.0

Botanical Name	Fruit's Common Name	Minimum Brix Level for Reconstituted Fruit Juices and Reconstituted Purée	Minimum Juice and/or Purée Content (%v/v) for Fruit Nectars
<i>Passiflora quadrangularis</i>	Passion fruit	(*) <sup>16</sup>	(*) <sup>16</sup>
<i>Phoenix dactylifera</i>	Date	18.5	25.0
<i>Pouteria sapota</i>	Sapote	(*) <sup>16</sup>	(*) <sup>16</sup>
<i>Prunus armeniaca</i>	Apricot	11.5	40.0
<i>Prunus avium</i>	Sweet cherry	20.0	25.0
<i>Prunus cerasus</i>	Sour cherry	14.0	25.0
<i>Prunus cerasus</i> cv. <i>stevensbaeri</i>	Stonesbear	17.0	25.0
<i>Prunus domestica</i> ssp. <i>Domestica</i>	Plum	12.0	50.0
<i>Prunus domestica</i> ssp. <i>Domestica</i>	Prune	18.5	25.0
<i>Prunus domestica</i> ssp. <i>Domestica</i>	Quetsche	12.0	25.0
<i>Prunus persica</i> (L.) Batsch var. <i>Nucipersica</i> (Suckow) C.K.	Nectarine	10.5	40.0
<i>Prunus domestica</i> ssp. <i>Domestica</i>	Peach	10.5	40.0
<i>Prunus spinosa</i>	Sloe	6.0	25.0
<i>Psidium guajava</i>	Guava	8.5	25.0
<i>Punica granatum</i>	Pomegranate	12.0	25.0
<i>Pyrus arbutifolia</i> (L.) Pers	Aronia/chokeberry	(*) <sup>16</sup>	(*) <sup>16</sup>
<i>Pyrus communis</i>	Pear	12.0	40.0
<i>Ribes nigrum</i>	Black currant	11.0	30.0
<i>Ribes rubrum</i>	Red currant	10.0	30.0

<i>Ribesrubruml.</i>	White currant	10.0	30.0
<i>Ribesuva crispa</i>	Red gooseberry	( * ) <sup>16</sup>	30.0
<i>Ribesuva crispal</i>	Goosberry	7.5	30.0
<i>Ribesuva crispal</i>	White goosberry	( * ) <sup>16</sup>	30.0
<i>Rosa caninal</i>	Cynorrhodon	( * ) <sup>16</sup>	40.0
<i>Rosasp.l</i>	Rosehip	9.0	40.0
<i>Rubus chamaemorusl</i>	Cloud berry	9.0	30.0
<i>Rubus chamaemorusl.</i> <i>Morushybrid</i>	Mulberry	( * ) <sup>16</sup>	40.0
<i>Rubus fruitcosusl</i>	Black berry	9.0	30.0
<i>Rubus hispidus</i> (of north america <i>R.caesius</i> (ofeurope)	Dew berry	10.0	25.0

Botanical Name	Fruit's Common Name	Minimum Brix Level for Reconstituted Fruit Juices and Reconstituted Purée	or Purée Content (%v/v) for Fruit Nectars
<i>Rubus idaeus</i> l. <i>Rubus strigosus</i> Michx	Red raspberry	8.0	40.0
<i>Rubus loganobaccus</i> l. <i>H. bailey</i>	Logan berry	10.5	25.0
<i>Rubus occidentalis</i> l.	Blackrasp berry	11.1	25.0
<i>Rubus ursinus</i> Schumacher & Schultze	Boysen berry	10.0	25.0
<i>Rubus vitifolius</i> × <i>Rubus idaeus</i> <i>Rubus baileyanus</i>	Young berry	10.0	50.0
<i>Sambucus nigra</i> l. <i>Sambucus canadensis</i> l.	Elder berry	10.5	25.0
<i>Solanum quitoense</i> Lam.	“lulo”	(*) <sup>16</sup>	(*) <sup>16</sup>
<i>Sorbus aucuparia</i> l.	Rowan berry	11.0	30.0
<i>Sorbus domestica</i>	Sorb	(*) <sup>16</sup>	30.0
<i>Spondia lutea</i> l.	“cajá”	10.0	25.0
<i>Spondia tuberosa</i> Arruda ex Kost	“umbu”	9.0	25.0
<i>Syzygium jambosa</i>	Pome apple	(*) <sup>16</sup>	(*) <sup>16</sup>
<i>Tamarindus indica</i>	Tamarind (indian date)	13.0	Adequate content to reach a minimum acidity of 0.5
<i>Theobroma cacao</i> l.	Cocoa pulp	14.0	50.0
<i>Theobroma grandiflorum</i> l.	“cupuaçu”	9.0	35.0
<i>Vaccinium macrocarpon</i> L.	Cran berry	7.5	30.0
<i>Vaccinium myrtillus</i> l. <i>Vaccinium corymbosum</i> l. <i>Vaccinium angustifolium</i>	Bilberry/blue berry	10.0	40.0
<i>Vaccinium vitis-idaea</i> l.	Lingonberry	10.0	25.0
<i>Vitis vinifera</i> l. or hybrids thereof <i>Vitis labrusca</i> or hybrids thereof	Grape	16.0	50.0
	<u>Other</u> : High acidity		Adequate content to reach a minimum acidity of 0.5
	<u>Other</u> : High pulp content, or strong flavour		25.0
	<u>Other</u> : low acidity, low pulp content, or low/medium flavour		55.0

**Annexure 14b**
**Requirements for Alcoholic Beverages**

Sr No	Characteristic	Gin	Vodka	Whisky			Brandy	Rum	
				Meat	Blended	Whisky	Blendedr grape	Rum	Premix or Flavaour
1	Aldehydes as Acetaldehy de (expressed inTerms of g/100 L of absolute alcohol), Maximum	20.0	15.0	50.0	35.0	15.0	45.0	30.0	30.0
2	Arsenic mg/L, Maximum	0.25	0.0	0.25	0.25	0.25	0.25	0.25	0.25
3	Cadmium mg/L, Maximum	0.01	0.0	0.01	0.01	0.01	0.01	0.01	0.01
4	Copper mg/L,Maximum	5.0	5.0	10.0	10.0	10.0	10.0	10.0	5.0
5	Ethyl alcohol Content at 20°C percent. by volume	36 to 50	36 to 50	50	36 to 50	36 to50	36 to 50	36 to 50	36 to 50
6	Furfural (expressed in terms of g/100 L of absolute alcohol), Maximum	12.0	12.0	12.0	6.0	6.0	12.0	10.0	5.0
7	Higher Alcohols as amyl alcohol (expressed in terms of g/100 L of absolute Alcohol), Maximum	100.0	50.0		750.0	350.0	350.0	350.0	200.0
8	Lead mg /L, Maximum	0.2	0.0	0.2	0.2	0.2	0.2	0.2	0.2

		Gin							
9	Mercury mg/L, Maximum	0	0.0	0	0	0	0	0	0
10	Methyl Alcohol (expressed in terms of mg/L of distilled absolute alcohol), Maximum	Nil		Nil	Nil	Nil	Nil	Nil	Nil
11	Residue on evaporation percent. (mg/L), Maximum	2.5		2.5	2.0	2.0	2.0	2.0	1.0
12	Total esters as ethyl acetate (expressed in terms of g/100 L of absolute alcohol), Maximum	30.0		200.0	150.0		350.0	250.0	150.0
13	Volatile acids as acetic acid (expressed in terms of g/100 L of absolute alcohol), Maximum	10.0		10.0	150.0	100.0	100.0		50.0

**Annexure 14 (b)**

Requirement for beer (canned / bottled)

Sr No.	Characteristics	Standard
1	pH	Min.3.8-4.5
2	Carbon dioxide (v/v)	Max. 2.5
3	Copper (mg/L)	Max. 1.0
4	Iron (as Fe) mg/L	Max.5.0
5	Lead (mg/L)	Max. 0.2
6	Arsenic (mg/L)	Max. 0.25
7	Cadmium (mg/L)	Max. 0.1
8	Total plate count (cfu/mL)	Max. 2.0
9	Coliform count (cfu/mL)	Absent
10	Yeast & mould (cfu/mL)	Absent

## Chapter 15

### 15. Ready-to-Eat Savouries:

Includes all types of savoury snack foods

#### 15.1 Snacks -Potato, Cereal, Flour or Starch Based (from Roots and Tubers, Pulses and Legumes):

Includes all savoury snacks, with or without added flavourings, but excludes unsweetened crackers. Examples include potato chips, popcorn, pretzels, rice crackers, (*namkeen*; snack made of a mixture of flours, maize, potatoes, salt, dried fruit, peanuts, spices, colours, flavours, and antioxidants), and *papads* (prepared from soaked rice flour or from black gram or cow pea flour, or other flours, mixed with salt and spices, and formed into balls or flat cakes).

##### 15.1.1 Namkeen

(i) Namkeens are prepared using a number of ingredients and are available in various forms in the market. The common names nimko pakorian, dal sawwian, namakparayy, bhalian, golgappay, etc. The preparation prior to frying varies with the product. For example;

(ii) Namkeen are prepared by kneading besan or flour with water and frying in suitable oil/fat or combination thereof. Salts/spices and other optional ingredients are added either at the time of kneading or after frying.

(iii) Salted and spiced fried dals are made by soaking dals in water and frying with or without other ingredients

(iv) Chewra are made by direct frying the rice flakes in vegetable oil/ hydrogenated fat.

(v) Fried dals including channa (chickpea) are made by soaking pulses with water and frying in oil.

##### Ingredients:

The following ingredients, singly, or in combination shall be used in preparation of namkeens. Cereals/legumes and their products e.g. besan (gram flour), beaten, rice/maize Potatoes, refined edible vegetable oil, edible hydrogenated vegetable oil (banaspati), salt, spices e.g. chilli powder, black pepper, cloves, coriander, saunf, karri patta, garlic, cumin seeds, sesame seed, khaskhas, turmeric, black salt, garam masala etc. Dry fruits e.g. raisins, cashew nuts, almonds, coconut, groundnut kernel, fig, apricot, sugar, permitted flavouring and food colour citric acid/tartaric acid, sodium bicarbonate. The ingredients shall be clean, wholesome and free from any infection, infestation and foreign material and free from any undesirable smell.

##### Requirements

Namkeen shall comply with the requirements given below;

All the raw material or ingredient used for preparation of namkeens shall follow the prescribed standards as per these regulations or Codex standards in case where local standards are not available. Food additives used in these formulations must be of food grade, permitted and halal. Namkeen shall have an attractive colour, texture and pleasant taste and odour. It shall be crisp and homogeneous in case of mixture. The namkeen shall be free from rancidity and other objectionable odour and taste. The namkeen shall not bear any sign of burning or charring not more than 0.5 percent. The material shall be free from insects, insect fragments, rodent hair and excreta and fungal infestation. The frying medium shall be regularly replaced with fresh batches of oil or fat or combination thereof to conform to regulations of frying oil prescribed in these regulations or good manufacturing practices. Temperature of the frying medium shall not exceed the smoke point.



Sr No	Characteristics	Requirements
1	Moisture	Max. 5 % by mass
2	Moisture For nimko, dal sawwian, nuts, fried products	Max. 2 % by mass
3	Acid insoluble ash (dry basis)	Max. 0.1 % by wt.
4	Fat ( on dry basis )	15-45 % by mass
5	Acid value of extracted fat	Max. 1
6	Peroxide value meq oxygen/kg fat	Max. 10

### 15.1.2. Traditional Ready to Eat Savouries

(i) Kachori is a spicy snack usually a round flattened ball made of fine flour filled with a stuffing of baked mixture of yellow moong dal or urd dal (crushed and washed beans), meat and meat products, besan or flour, black pepper, red chili powder, salt and other spices.

(ii) Boondi is a snack food made from sweetened, fried chickpea flour. Being very sweet, it can be stored for a week or so, to make boondi laddu, fried boondi is dipped in sugar syrup.

(iii) Gol gappay, are round, hard, puffy shell broken and partially filled with the main stuffing of potato, vegetable, yogurt and other spices. Tartaric acid shall not be used

(iv) Dahi barray is a popular snack which is prepared by soaking bhalla (fried flour balls) in thick dahi (yogurt).

(v) Pakora also called pakoda, pakodi, is a fried snack (fritter). Usually, the name of the vegetable that is deep-fried may be potatoes, or meat or mixed vegetables.

(vi) Namakpara is a crunchy savoury snack, ribbon-like strips of pastry delicately seasoned with cumin seeds, carom seeds, and caraway seeds and deep fried (fritter). Usually, the name of the vegetable that is deep-fried may be potatoes, or meat or mixed vegetables.

(vii) Samosa is a fried or baked dish with a savoury filling, such as spiced potatoes, onions, peas, lentils, noodles or minced meat (lamb, beef or chicken). All traditionally savory foods shall follow the standards of hygiene. The ingredient used in such products shall follow the standards prescribed in these regulations and shall only use permitted additives (colours, flavors etc.) as per these regulations. Potable water used in the premises whether used for cleaning or otherwise shall be clean and fit for drinking. Standards for vegetable oil used in frying shall be complied with these regulations.

Sr No	Characteristics	Requirements
1	Peroxide value milli equivalents /kg fat.	Maximum 10
2	FFA	Not more than 1.8 percent

(viii) Papadis one of the popular articles of household food categories. It shall comply with following standards. The following edible quality ingredients free from insects, extraneous matter and fungal growth shall be used for manufacturing papad;

Rice flour, wheat flour, barley flour, maize flour, sorghum flour, potato flour, gram, moong, lentil. Edible common salt, edible vegetable oil Spices, sodium bicarbonate Papads shall be of pleasant taste and smell, and shall be free from rancid or bitter taste and shall not crumble. They shall be free from broken or frayed edges, excessive number of holes, dirt or foreign matters, insect infestation or fungal growth. On frying, papads shall be brittle (break easily) and crispy to bite. They shall not give leathery, gritty, sticky or soggy mouth feel. It shall be free from odor and off flavor.

Sr No	Characteristics	Requirements
1	Peroxide value milli equivalents /kg fat	Maximum 10

#### 15.1.3. Potato Chips:

The fried potato chips shall have an attractive light to golden yellow colour without brown spots, crisp texture, and pleasant taste and odour. Salt and other seasoning shall be added to taste. The chips shall be of thickness between 1.0 to 10.0 mm, free from blisters, excessive dark brown pigmentation and wet centers. It shall not have burnt pieces. The chips shall not be excessively greasy and shall be free from rancidity and other objectionable odour and taste. Any seasoning used for potato chips shall follow the standards of ingredients as prescribed in these regulations. The label on the packaged product shall enlist ingredients in descending orders.

Sr. No.	Characteristics	Requirements
1	Moisture	Max. 2 % by mass
3	Acid insoluble ash	Max. 0.15
4	Peroxide value meq oxygen/kg fat	Max. 10
5	Salt content	Max. 2.5 % by mass
6	Fat (on dry basis)	Max. 35 % by mass
7	Acid value of extracted fat	Max. 2
8	Acrylamide not more than	1000 ppb

#### 15.2 Processed Nuts, Including Coated Nuts and Nut Mixtures (with e.g. Dried fruit)

##### 15.2.1. Seasoned, Spiced and Sweetened Cashewnut

Cashewnut is a favourite savoury snack. These may be roasted or fried and coated with salt, spice or sugar. The product shall be any one of the following types:

Roasted (plain or salted or spice-coated or sugar-coated), fried (plain or salted or spice-coated or sugar-coated). Cashew kernels shall be fresh, wholesome and free from any infection, infestation and undesirable smell used for producing above product types. Other ingredients include; Refined edible oil such as groundnut oil, coconut oil, banaspati or ghee, free from rancidity and other off flavours, conforming to refined edible grade standards

Sugar, common salt, spices used shall be clean. Fresh ground spices like chilli, pepper or others, free from infection, infestation, foreign matter and any undesirable odour or taste permitted antioxidants cashew nuts shall comply with the requirements given in below;

- (f) They shall have a crisp, wholesome, texture.
- (ii) They shall have the typical roasted nutty flavor characteristic of cashewnut.
- (iii) The heat treatment shall not result in excessive burning or charring.
- (iv) Temperature of frying oil shall not exceed the smoke point, maximum free fatty acid and polar compounds prescribed in these regulations.
- (v) The product shall be free from rancid or other undesirable flavour.
- (vi) It shall also be free from insect residues, rodent hair and excreta, fungi infection, objectionable odour and rancid taste.

Only permitted colours and flavours shall be added.

Sr No	Characteristics	Requirements
1	Moisture	Max. 3.5 % by mass
2	Acid value of extracted fat	Max. 2

#### 15.2.2. Roasted groundnut (peanut)

Roasted groundnut (peanut) kernels shall be prepared from clean, sound, shelled and mature peanuts which have been roasted/parched/toasted in a hot dry medium. Thereafter the red skins may or may not be removed. The nuts may be left whole or split and the final product may be treated optionally with a small amount of fat, salt, spices, etc. Roasted groundnut (peanut) kernels shall be free from insects, insect residues, rodent hair and excreta, fungal infection, objectionable odour and rancid taste.

Sr No	Characteristics	Requirements
1	Moisture (roasted )	Max. 2 % by mass
2	Peanut kernels moisture contents	Max. 9 %
3	Fat (on dry basis)	Max. 42 % by mass
4	Acid value of extracted fat	Max. 2
5	Aflatoxin	Max. 20 ppb

#### 15.3 Snacks-Fish Based:

This describes savoury crackers with fish, fish products or fish flavoring, and include dried fish pressed that may be consumed as a snack, and dried meat snacks (e.g. beef jerky, pemmican).

#### 15.4. Ready-to-Eat Extruded Snacks;

Products made by a process known as 'extrusion cooking'. This is a process by which pre-conditioned raw food material is subjected to high temperature short time cooking. The following raw materials may be used for the production of ready-to-eat extruded snacks. They should be clean and of good quality, dehusked and/or degermed cereals and

millet; wheat flour/semolina edible tubers and starches, dehusk pulses Refined edible vegetable oils, edible hydrogenated fat singly or in combination, salt, spices, spice extracts and condiments; tomato, onion and garlic powder; powder of other edible vegetables and fruits, cheese powder, skimmed milk powder, dextrin's, high protein flours sugar and sugar products, permitted flavouring citric acid/tartaric acid and permitted emulsifying/stabilizing agents.

The ready-to-eat extruded snacks shall comply with the requirements given in below;

- (a) These products shall use food grade permitted colors, food grade flavours and food grade organic acid.
- (b) It shall also be free from insects, insect residues, rodent hair and excreta, fungal infection and any other extraneous and harmful material.
- (c) The product shall be crisp, and free from grits or uncooked particles.
- (d) Extruded snacks shall be of pleasant taste and smell, and free from rancid, soapy, bitter or burnt taste and smell.

They shall have an aroma and taste characteristic of the flavours and spices used.

Sr No	Characteristics	Requirements
1	Moisture	Max. 6 % by mass
2	Moisture	Max. 25 % by mass
3	Acid value of extracted fat	Max. 2
4	Peroxide value meq oxygen/kg fat	Max. 10
5	Total bacterial count	50,000 per gram of sample

#### 15.4.1. Ready-to-eat' Protein Rich Extruded Foods

Ready-to-eat' protein rich extruded foods are made by a process known as 'extrusion cooking'. These foods could also be of importance during emergency needs related to natural calamities like floods, cyclones, epidemics and famine conditions. In addition they can be used as nutritive snacks by all. The following raw materials may be used for the production of 'ready-to-eat' protein-rich extruded foods. They should be clean and of good quality;

- (a) Dehusked cereals and millets, pulses;
- (b) Dehusked edible oilseeds, oilseed flours and oilseed protein concentrates and isolates;
- (c) Salt, spices, condiments, edible tubers and starches.
- (d) Permitted preservatives, flavours and colors.

The ready-to-eat' protein rich extruded foods shall comply with the requirements given in below;

(a) It shall also be free from extraneous matter and harmful material.

(b) The product shall not have a rancid taste or musty odour.

Protein efficiency ratio of the protein in the 'ready-to-eat' protein-rich extruded foods shall be not less than 1:8

The 'ready-to-eat' protein-rich extruded foods shall not have an aflatoxin content more than 30 micro g/kg.

The 'ready-to-eat' protein-rich extruded foods shall not have free gossypol content more than 0.065 percent by mass and total gossypol content more than 1.10 percent by mass.

The 'ready-to-eat' protein-rich extruded food shall not have any oxalic acid content more than 0.5 percent.

Sr No	Characteristics	Requirements
1	Moisture, (roasted )	Max. 6 % by mass
2	Protein (expressed as Nx 6.25)	Max. 16 % by mass
3	Calories per 100 g	Min. 340
4	Total ash (on dry basis)	Max. 5 % by mass
5	Acid insoluble ash (on dry basis)	Max. 0.25 % by mass
6	Crude fiber (on dry basis )	Max. 3 % by mass

#### Annex: 15

##### Microbiological Limits for Ready to Eat Snacks/ Savouries

Sr No	Characteristics	Requirements
1	Total plate count	<50,000/ g
2	Coliforms	<100/ g
3	<i>E.coli</i>	<10/ g
4	<i>Staph. aureus</i>	<100/ g
5	<i>Salmonella</i>	Absent/ 25 g
6	<i>Clostridium perfringens</i>	<100

## Chapter 16

### 16.0 Prepared Food

Prepared foods is a broader category including both local and foreign recipes. They are prepared by the use of various foods and food products as described in the other categories (01-15). They should be dealt on a case-to-case basis. Prepared foods involve single or mixtures of multiple components of various foods like meat, sauce, grain, cheese, vegetables etc. Maximum care should be exercised in their preparation keeping in view the safety and nutritional status of the incorporated ingredients. All the additives/ingredients that are used for prepared food shall follow the standards prescribed by these regulations. While manufacturing the prepared foods, compliance should be made with the use of particular food components as specified in the categories (1-15). The ingredients used in prepared foods are Generally Recommended as Safe (GRAS) and in line with the Codex General Standard for Food Additives (GSFA). As a guideline, the standards for additives prescribed in the Codex Alimentarius Commission shall be consulted. Prepared foods require minimal preparation by the consumer (e.g. heating, thawing, rehydrating). Provisions for additives will be listed in this food category in these regulations only if the additive is needed:

- (a) Solely to have a technological function in the prepared food as sold to the consumer; or
  - (b) At a use level that has an intentional technological function in the prepared food that exceeds the use level that can be accounted for by carry-over from the individual components.
- Generally, compliance of the following standards shall be made.

(i) Fat	from healthy halal animal origin if not specified otherwise
(ii) Proteins	as specified for particular nutritional requirement
(iii) Carbohydrates	Based on required calories
(iv) Microbial count	as per tolerable limits
(v) Additives	as per permissible limits

#### 16.1. Frozen Curried Vegetables/Ready-to-Eat Vegetables:

Frozen curried vegetables/ready-to-eat vegetables means the product prepared from fresh, dehydrated or frozen or previously processed vegetables, legumes, cereals or pulses, whether whole or cut into pieces. Vegetable(s) either singly or in combination may be prepared in any suitable style applicable for the respective vegetables in normal culinary preparation. It may contain salt, nutritive sweeteners, spices and condiments, edible vegetable oils and fats and milk fat and any other ingredients suitable to the product and subjected to freezing process in appropriate equipment. Freezing operation shall not be regarded as complete unless and until the product temperature has reached (minus)–18°C at the thermal center after thermal sterilization. The product shall conform to the microbiological requirements as specified for a particular case.

#### 16.2. Other Classes of Prepared Foods:

##### (a) Locally Prepared Foods

- (i) Curries and gravies including trotters, offal, brain etc.
- (ii) Roasted foods
- (iii) Cooked rice including local foods

- (iv) Fried foods
- (v) Boiled foods
- (vi) Microwaved foods
- (vii) Baked food products
- (viii) Pastes and slurries
- (ix) Salad dressing
- (x) smoked foods
- (xi) Bar BQ foods
- (xii) Sweets and desserts
  - (xiii) Namak para
  - (xiv) Shakarparay
  - (xv) Pheonians
  - (xvi) Purri
  - (xvii) Suji laddoo
  - (xviii) Others
- (b) Continental foods
- (c) Thai foods
- (d) Chinese foods
- (e) Mediterranean foods
- (f) Arabian foods

**Table-List of Food Additives in Thermally Processed Vegetables**

Name of Food(s)	Name of Additive A [acidifying agents] Singly or in Combination			
	Acetic acid	Citric acid	Lactic acid-Tartaric acid	Malic acid
Canned tomato	GMP	-	GMP	GMP
Green beans/wax bean	-	-	-	GMP
Sweet corn/baby corn	-	-	GMP	GMP
Mushrooms	GMP	-	-	GMP
Green peas	-	-	-	GMP
Carrots	-	-	-	GMP
Chest nuts	-	-	-	GMP
Chest nut puree	-	-	-	-
Niger, groundnut	-	-	-	GMP
Sesame, and mustard	-	-	-	-
Pastes and other oil	-	-	-	-
Asparagus	GMP	-	GMP	GMP
Processed peas	-	-	-	GMP

Lady finger/Okra	-	-	-	GMP
Cauliflower	GMP	-	GMP	GMP
Brinjal	GMP	-	-	GMP
Sweet potato	-	GMP	-	GMP
Gherkin	GMP	-	-	GMP
Spinach	GMP	-	-	GMP
Table onions	GMP	-	-	GMP
Garlic	GMP	-	-	GMP
Bell pepper	GMP	-	GMP	GMP
Rajma	GMP	-	-	GMP
All pulses and dals	GMP	-	-	GMP
Whole and splits	-	-	-	-
Other vegetable and	GMP	-	-	GMP
Curried vegetables/	-	-	-	-
Ready - to - eat vegetables	-	-	-	-

**Table-List of Food Additives in Thermally Processed Vegetables**

Name of Food(s)	Name of additive B [anti-oxidants] singly or in combination			
	Ascorbic acid	BHA	TBHQ	Acorbyl palmitate
Canned tomato	-	-	-	-
Green beams /wax beam	-	-	-	-
Sweet corn/baby corn	-	GMP	-	-
Mushrooms	GMP	-	-	-
Green peas	-	-	-	-
Carrots	-	-	-	-
Chest nuts	Max. 300 ppm	Max. 200 ppm	Max. 200 ppm	Max. 200 ppm
Chest nut puree	-	-	-	-



Niger, groundnut	Max. 300 ppm	-	-	-
Sesame, and mustard	-	-	-	-
Pastes and other oil	-	-	-	-
Asparagus	GMP	-	-	-
Processed peas	-	GMP	-	-
Lady finger/Okra	-	GMP	-	Max. 200 ppm
Cauliflower	GMP	Max. 200 ppm	Max. 200 ppm	-
Brinjal	GMP	Max. 200 ppm	Max. 200 ppm	Max. 200 ppm
Sweet potato	GMP	Max. 200 ppm	Max. 200 ppm	Max. 200 ppm
Gherkin	GMP	Max. 200 ppm	Max. 200 ppm	Max. 200 ppm
Spinach	GMP	Max. 200 ppm	Max. 200 ppm	Max. 200 ppm
Table onions	GMP	Max. 200 ppm	Max. 200 ppm	Max. 200 ppm
Garlic	GMP	Max. 200 ppm	Max. 200 ppm	Max. 200 ppm
Bell paper	GMP	Max. 200 ppm	Max. 200 ppm	Max. 200 ppm
Rajma	GMP	Max. 200 ppm	Max. 200 ppm	Max. 200 ppm
All pulses and dals	GMP	Max. 200 ppm	Max. 200 ppm	Max. 200 ppm
Whole and splits				
Other vegetable and curied vegetables/ready- to - eat vegetables	GMP	Max. 200 ppm	Max. 200 ppm	Max. 200 ppm

#### **Curied vegetables/ Ready-to-eat vegetables**

**Annexure: Microbiological Limits for Cooked/Prepared Foods**

<b>Sr. No.</b>	<b>Parameters</b>	<b>Limits</b>
1	Total plate count	<50,000/ g
2	Coliforms	<100 / g
3	<i>E.coli</i>	<10/ g
4	<i>Staph.aureus</i>	<100 / g
5	<i>Salmonella</i>	Absent/ 25g
6	<i>Clostridium perfringens</i>	<100

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