CHAPTER 2
FOOD PRODUCT STANDARDS

2.10: BEVERAGES, (Other than Dairy and Fruits & Vegetables based)

2.10.1: TEA

1. **TEA** means tea other than Kangra tea obtained by acceptable processes, exclusively from the leaves, buds and tender stems of plant of the Camellia sinensis (L) O. Kuntze. It may be in the form of black or oolong tea. The product shall have characteristic flavour free from any off odour, taint and mustiness. It shall be free from living insects, moulds, dead insects, 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 flavour 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 added flavour shall bear proper label declaration as provided in regulation 2.4.5 (23) of Food Safety and Standards (Packaging and Labelling) Regulations, 2011. Tea used in the manufacture of flavoured tea shall conform to the standards of tea. The flavoured tea manufacturers shall register themselves with the Tea Board before marketing flavoured tea. Pectinase enzyme can be added up to a level of 0.2% during manufacture as processing aid. The product shall conform to the following requirement in which all the figures given are expressed on the basis of the material oven-dried at 103±2° C.

(a)	Total Ash (m/m)	Not less than 4.0 percent and not more than 8.0
(b)	Water Soluble Ash	Not less than 45.0 percent of total ash
(c)	Alkalinity of water soluble ash expressed as KOH (m/m)	Not less than 1.0 percent and not more than 3.0 percent
(d)	Acid-insoluble ash (m/m)	Not more than 1.0 percent
(e)	Water extract (m/m)	Not less than 32.0 percent
(f)	Crude Fibre (m/m)	Not more than 16.5 percent
[25, 83][(g)	Iron filing (mg/Kg)	Not more than 125]

2. KANGRA TEA means tea derived exclusively from the leaves, buds and tender stems of plants of the Camellia sinensis or Camellia tea grown in Kangra and Mandi valleys of Himachal Pradesh. It shall conform to the following specifications namely;

(a)	Total ash determined on tea dried to constant weight at 100^0C	4.5 to 9.0 Per cent. By weight
(b)	Total ash soluble in boiling distilled water	Not less than 34 percent of total ash
(c)	Ash insoluble in dilute hydrochloric acid	Not more than 1.2 per cent. By weight on dry basis.
(d)	Extract obtained by boiling dried tea (dried to constant at 180^0C) with 100 parts of distilled water for one hour under reflux	Not less than 1.2 per cent.
(e)	Alkalinity of soluble ash	Not less than 1.0 per cent. And not more than 2.2 per cent. Expressed as K_2O on dry basis.
(f)	Crude fibre determined on tea dried to constant weight at 100^0C	Not more than 18.5 per cent.
[25,83][(g)	Iron Filing (mg/Kg)	Not more than 125]

It shall not contain any added colouring matter It may also contain 0.2 per cent Pectinase enzyme

Provided that tea may contain Natural Flavours and Natural Flavouring Substances which are flavour preparations and single substance respectively, acceptable for human consumption, obtained exclusivley by physical process from materials of plant origin either in their raw state or after processing for human consumption:

Provided further that such tea containing added flavour shall bear proper label declaration as provided in regulation 2.4.5 (23) of Food Safety and Standards (Packaging and Labelling) Regulations, 2011.

Provided also that tea used in the manufacture of flavoured tea shall conform to the standards of tea.

Provided that if tea is sold or offered for sale without any indication as to whether it is Kangra tea or not, the standards or quality of tea prescribed in item regulation 2.10.1 (1) shall apply.

Provided also that Flavoured tea manufacturers shall register themselves with the Tea Board before marketing Flavoured tea;

3. Green Tea means the product derived solely and exclusively, and produced by acceptable processes, notably enzyme, inactivation, rolling or comminution and drying, from the leaves, buds and tender stems of varieties of the species Camellia sinensis (L) O. Kuntze, known to be suitable for making tea for consumption as a beverage. 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). 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 flavour preparations 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 added flavour shall bear proper label declaration as provided in regulation 2.4.5 (23) of Food Safety and Standards (Packaging and Labelling) Regulations, 2011. Tea used in the manufacture of flavoured tea shall conform to the standards of tea. The flavoured tea manufacturers shall register themselves with the Tea Board before marketing flavoured tea. 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±2° C.

	Parameter	*Limits*
(a)	Total Ash (m/m)	Not less than 4.0 percent and not more than 8.0 percent
(b)	Water-soluble ash	Not less than 45.0 percent of total ash.
(c)	Alkalinity of water – soluble Ash expressed as KOH (m/m)	Not less than 1.0 percent of total ash and not more than 3.0 percent
(d)	Acid-insoluble ash (m/m)	Not more than 1.0 percent
(e)	Water-extract (m/m)	Not less than 32.0 percent
(f)	Crude fibre (m/m)	Not more than 16.5 percent
(g)	Total catechins (m/m)	Not less than 9.0 percent and not more than 19.0 percent

[75]**[4. Instant Tea in Solid Form. -** (1) Dried water- dispersible solids obtained by aqueous extraction by an acceptable process of the leaves, buds, and stems, and of materials derived there from, of those varieties of the species Camellia sinensis (Linnaeus) O. Kuntze exclusively which are known to be suitable for making tea for consumption as a beverage and the residue, if any, of permitted process aids and permitted food additives.

(2) The instant tea in solid form shall produce a liquor of characteristic flavour, colour and taste. It shall have no taint and shall be free from extraneous matter, added colours and non-permitted flavours.

(3) It may contain processing aids as permitted for Tea and for all foods under APPENDIX C of these regulations.

(4) Instant tea used in the manufacture of flavoured instant tea shall conform to the standards of instant tea.

(5) The flavoured instant tea manufacturers shall register themselves with the Tea Board before marketing flavoured instant tea and the registration number shall be mentioned on the label.

(6) 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±2° C.

S. No.	**Parameters**	**Requirements**
1.	Moisture content, percent by mass, Max	6.0
2.	Total ash, percent by mass, Max, on dry basis: a) Hot Soluble b) Cold Soluble	 20 35
3.	Acid-insoluble ash, percent by mass, Max	1.0]

2.10.2: COFFEE

1. **Coffee (green raw or unroasted)** means the dried seeds of Coffea arabica, Coffea liberica, Coffee excelsa or Coffea canephora (robusta)

with their husks (mesocarp and endocarp) removed.

1.1 Roasted coffee means properly cleaned green coffee which has been roasted to a brown colour and has developed its characteristic aroma.

1.2. Ground coffee means the powdered products obtained from 'roasted coffee' only and shall be free from husk.

1.3. Coffee (green raw or unroasted), 'roasted and ground coffee' shall be free from any artificial colouring, flavouring, facing extraneous matter or glazing substance and shall be in sound, dry and fresh condition, free from rancid or obnoxious flavour.

1.4. Roasted coffee and ground coffee shall conform to the following analytical standards:-

Moisture (on dry basis) m/m	Not more than 5.0 percent
Total Ash (on dry basis) m/m	3.0 to 6.0 percent
Acid insoluble ash (on dry basis) m/m	Not more than 0.1 percent
Water soluble ash (on dry basis) m/m	Not less than 65 percent of total ash
Alkalinity of soluble ash in milliliters of 0.1 N hydrochloric acid per gram of material (on dry basis) m/m	Not less than 3.5 ml & Not more than 5.0 ml
Aqueous extracts on dry basis m/m	Not less than 26.0 and not more than 35.0 percent
Caffeine (anhydrous) (on dry basis) m/m	Not less than 1.0 percent

[61][1A. Decaffeinated roasted and ground coffee

1A.1 Decaffeinated Coffee means, the dried seeds of Coffea arabica, Coffea liberica, Coffea excelsa or Coffea canephora (Robusta) or with their husks (mesocarp and endocarp) removed and decaffeinated to remove nearly all the caffeine from the beans. Decaffeination is carried out while the beans are in green form, before they are roasted.

1A.2 Roasted decaffeinated coffee means properly cleaned green coffee which has been decaffeinated, roasted to a brown colour and has developed its characteristic aroma.

1A.3 Ground decaffeinated coffee means the powdered products obtained from 'roasted decaffeinated coffee' only and shall be free from husk.

1A.4 It shall be free from artificial colouring, flavouring, facing, extraneous matter or glazing substances and shall be in dry and fresh condition, free from rancid or obnoxious flavours. It shall conform to the following standards on dry weight basis, namely: -

(i)	Moisture, percent by mass, max	5.0
(ii)	Total Ash, percent by mass	3.0 to 6.0
(iii)	Acid insoluble ash, percent by mass, max	0.1
(iv)	Water soluble ash, percent by mass, min	65.0
(v)	Alkalinity of soluble ash in ml of 0.1 N hydrochloric acid per gram of material, percent by mass, ml	3.5 to 5.0
(vi)	Aqueous extracts, percent by mass	26.0 to 35.0
(vii)	Caffeine (anhydrous) percent by mass, max	0.1]

2. Soluble Coffee Powder means coffee powder, obtained from freshly roasted and ground pure coffee beans. The product shall be in the form of a free flowing powder or shall be in the agglomerated form (granules) having colour, taste and flavour characteristic of coffee. It shall be free from impurities and shall not contain chicory or any other added substances.

It shall conform to the following standards:

(i)	Moisture (on dry basis) m/m	Not more than 4.0 percent
(ii)	Total ash (on dry basis) m/m	Not more than 12.0 percent
(iii)	Caffeined content (on dry basis) m/m	Not less than 2.8 percent
(iv)	Solubility in boiling water	Dissolves readily in 30 seconds with moderate stirring
(v)	Solubilty in cold water at 16±2^{o}C	Soluble with moderate stirring in 3 minutes

[61] [2A. **Decaffeinated soluble coffee powder**

2A.1 Decaffeinated soluble coffee powder means coffee powder obtained from freshly roasted and ground pure coffee beans from which most of the caffeine has been removed. The product shall be in the form of a free flowing

powder or shall be in the agglomerated form (granules) having colour, taste and flavour characteristic of coffee. It shall be free from impurities and shall not contain chicory or any other added substances.

2A.2 Decaffeinated Soluble Coffee powder or granules shall conform to the following standards on dry weight basis, namely: -

(i)	Moisture, percent by mass, Max	4.0
(ii)	Total Ash percent by mass, Max	12.0
(iii)	Caffeine (Anhydrous,) percent by mass, Max	0. 3
(iv)	Solubility in boiling water	Dissolves in 30 seconds with moderate stirring
(v)	Solubility in cold water at 16+/- 2˚C	Dissolve in 3 minutes with moderate stirring]

2.10.3: CHICORY

1. Chicory means the roasted chicory powder obtained by roasting and grinding of the cleaned and dried roots of chicorium intybus Lin with or without the addition of edible fats and oils or sugar, like glucose or sucrose in proportion not exceeding 2.0 percent by weight in aggregate. It shall be free from dirt, extraneous matter, artificial colouring and flavouring agents.

It shall conform to the following standards, namely:-

(i)	Total ash (on dry basis) m/m	Not less than 3.5 percent and Not more than 8.0 percent
(ii)	Acid insoluble ash (on dry basis) m/m in diluted HCl	Not more than 2.5 percent
(iii)	Aqueous extracts (on dry basis) m/m	Not less than 55.0 percent

2.10.4: COFFEE - CHICORY MIXTURE

1. Coffee - Chicory Mixture means the product prepared by mixing roasted and ground coffee and roasted and ground chicory and shall be in a sound, dry and dust free condition with no rancid or obnoxious flavour. It shall be in the form of a free flowing powder having the colour, taste and flavour characteristic of coffee - chicory powder. It shall be free from any impurities and shall not contain any other added substance. The coffee content in the mixture shall not be less than 51 per cent by mass. The percentage of coffee and

chicory used shall be marked on the label as provided in Regulation 2.4.5 (1) (i) of Food Safety and Standards (Packaging and Labelling) Regulations, 2011.

It shall conform to the following standards, namely:—

(i)	Moisture	Not more than 5.0 per cent.
(ii)	Total ash on dry basis	Not more than 7.50 per cent.
(iii)	Acid insoluble ash on dry basis	Not more than 0.6 per cent.
(iv)	Caffeine content on dry basis	Not less than 0.6 per cent.
(v)	Aqueous extracts	Not more than 50 per cent.

2. Instant Coffee - Chicory Mixture means the product manufactured from roasted and ground coffee and roasted and ground chicory. It shall be in sound dry and dust free condition with no rancid or obnoxious flavour. It shall be in the form of a free flowing powder or shall be in the agglomerated (granules) form 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. The coffee content in the mixture shall not be less than 51 per cent by mass on dry basis. The percentage of coffee and chicory used shall be marked on the label as provided in Regulation 2.4.5 (1) (ii) of Food Safety and Standards (Packaging and Labelling) Regulations, 2011.

It shall conform to the following standards, namely:-

(i)	Moisture	Not more than 4.0 per cent.
(ii)	Total ash on dry basis	Not more than 10 per cent.
(iii)	Acid insoluble ash on dry basis	Not more than 0.6 per cent.
(iv)	Caffeine (anhydrous)	Not less than 1.4 per cent on dry basis.
(v)	Solubility in boiling water	Dissolves readily in 30 seconds with moderate
		stirring
(vi)	Solubility in cold water at 16 ± 2^0C	Soluble with moderate stirring in 3 minutes

[75][3. Decaffeinated Roasted and Ground coffee-chicory mixture.-

(1) Decaffeinated Roasted and Ground coffee-chicory mixture means the product prepared by mixing decaffeinated roasted and ground coffee and roasted and ground

chicory.
(2) It shall be in a sound, dry and dust free condition with no rancid and obnoxious flavor. It shall be in the form of a free flowing powder having color, taste, flavour characteristic of coffee-chicory powder. It shall be free from any impurities and shall not contain any other added substance.
(3) The coffee content in the mixture shall not be less than 51 percent by mass. The percentage of coffee and chicory used shall be marked on the label as per the Food Safety and standards (Labelling & Display) Regulations, 2020.
(4) It shall conform to the following standards, namely:-

S. No.	Parameters	Requirements
1.	Moisture, percent. by mass, Max.	5.0
2.	Total ash on dry basis, percent. by mass, Max.	7.50
3.	Acid Insoluble ash on dry basis, percent. by mass, Max.	0.6
4.	Caffeine content on dry basis, percent. by mass, Max.	0.1
5.	Aqueous extracts, percent. by mass, Max.	50

4. Decaffeinated Instant coffee-chicory mixture. - (1) The product manufactured from decaffeinated roasted and ground coffee and roasted and ground chicory. It shall be in a sound, dry and dust free condition with no rancid & obnoxious flavor. It shall be in the form of a free flowing powder or shall be in agglomerated (granules) form having the color, taste, flavour characteristic of coffee-chicory powder. It shall be free from any impurities and shall not contain any other added substance.
(2) The coffee content in the mixture shall not be less than 51 percent by mass on dry basis. The percentage of coffee and chicory used shall be marked on the label as per the Food Safety & Standards (Labelling & Display) Regulations, 2020.
(3) It shall conform to the following standards, namely: -

S. No.	Parameters	Requirements
1.	Moisture, percent. by mass, Max.	4.0
2.	Total ash on dry basis, percent. by mass, Max.	10

3.	Acid Insoluble ash on dry basis, percent. by mass, Max.	0.6
4.	Caffeine content on dry basis, percent. by mass, Max.	0.3
5.	Solubility in boiling water	Dissolves in 30 seconds with moderate stirring
6.	Solubility in water at 16± 2 ^{0} C	Dissolves in 3 minutes with moderate stirring]

2.10.5 [70][Omitted]

2.10.6 [72][BEVERAGES NON-ALCOHOLIC]

1. **CARBONATED WATER** means water conforming to the standards prescribed for Packaged Drinking Water [72][or mineral water] under Food Safety and Standard Act, 2006 impregnated with carbon dioxide under pressure and may contain any of the following singly or in combination:

1. Sugar, liquid glucose, dextrose monohydrate, invert sugar, fructose, honey, fruits and vegetables extractives and permitted flavouring, colouring matter, preservatives, emulsifying and stabilising agents, citric acid, fumaric acid and sorbitol, tartaric acid, phosphoric acid, lactic acid, ascorbic acid, malic acid, edible gums such as guar, karaya, arabic carobean, furcellaran, tragacanth, gum ghatti, edible gelatin, albumin, licorice and its derivatives, salts of sodium, calcium and magnesium, vitamins, Caffeine not exceeding 145 parts per million, Estergum (Glycerol ester of wood resin) not exceeding 100 parts per million, Gellan Gum at GMP level and quinine salts not exceeding 100 parts per million (expressed as quinine sulphate). It may also contain Saccharin Sodium not exceeding 100 ppm or Acesulfame-K not exceeding 300 ppm or Aspertame (methyl ester) not exceeding 700 ppm. or sucralose not exceeding 300 ppm or Neotame not exceeding 33 ppm.

[77][Provided that the products which contain aspartame, acesulfame-K or any other non-caloric sweetener(s) for which special labelling provisions have been provided under Schedule II of Food Safety and Standards (Labelling and Display) Regulations, 2020, may be packed, stored, distributed or sold in returnable containers subject to the compliance of

these labelling provisions for non-caloric sweeteners prominently on the label of bottle/container but not on crown.]

It shall conform to the following requirements, namely—

(1) Total plate count per ml not more than that.....50 cfu.

(2) Coliform count in 100 ml .....0 cfu.

(3) Yeast and mould count per ml not more than..... 2 cfu.

Provided further estergum used in carbonated water shall have the following standards, namely: —

Glycerol esters of wood rosins commonly known as ester-gum is hard yellow to pale amber coloured solid. It is a complex mixture of tri and diglycerol esters of rosin acids from wood rosin. It is produced by the esterification of pale wood rosin with food grade glycerol. It is composed of approximately 90 per cent rosin acids and 10 per cent neutrals (non-acidic compounds). The resin acid fraction is a complex mixture of isomeric diterpeniod monocarboxylic acids having the typical molecular formula of C_{20} H_{30} O_2 chiefly abietic acid. The substance is purified by steam stripping or by counter-current steam distillation.

Identification:

Solubility-Insoluble in water, soluble in acetone and in Benzene.

Infra Red Spectrum-Obtain the infra-red spectram of a thin film of the sample deposited on a potassium bromide plate-scan between 600 and 4000 wave numbers. Compare with typical spectrum obtained from pure ester-gum.

Test for absence of tall oil rosin (Sulphur test)-Pass the test as given below:

When sulphur-containing organic compounds are heated in the presence of sodium formate, the sulphur is converted to hydrogen sulfide which can readily be detected by the use of lead acetate paper. A positive test indicates the use of tall oil rosin instead of wood rosin.

Apparatus-Test Tube: Use a standard, 10x75 mm, heat-resistant, glass test tube, Burner - Bunsen: A small size burner of the microflame type is preferred.

Reagents

Sodium Formate Solution: Dissolve 20g of reagent grade sodium formate, NaOOCH, in 100 ml of distilled water. Lead Acetate Test Paper: Commercially available from most chemical supply houses.

Procedure-Weigh 40-50 mg of sample into a test tube and 1-2 drops of sodium formate solution. Place a strip of lead acetate test paper over the mouth of the test tube. Heat the tube in the burner flame until fumes are formed that contact the test paper. Continue heating for 2-5 minutes. There must be no formation of a black spot of lead sulphide indicating the presence of sulphur containing compounds.

Detection Limit: 50 mg/kg sulphur).

Drop softening point-Between 880 C and 960 C.

Arsenic- Not more than 3ppm.

Lead- Not more than 10ppm.

Heavy metals (as lead)- Not more than 40 ppm.

Acid value- Between 3 and 9.

Hydroxyl number- Between 15 and 45.

[24][2. Caffeinated Beverage. -

[75][The following are the standards for Carbonated and Non- Carbonated caffeinated beverages:]

(I) Water used in preparation of caffeinated beverages should conform to the standards of packaged drinking water as prescribed in regulation 2.10.8 [72][or mineral water as prescribed in regulations 2.10.7] of the Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011.

(II) Essential Composition: It shall contain not less than 145 mg per liter and not more than 300 mg per litre total caffeine from whatever sources it may be derived in the formulation of the product.

(III) Optional ingredients: It may contain the following:

Any of the substances listed in column (1) of the table given below provided that the amount of that substance is not more than the amount specified in relation to that substance in column (2) of the table:

(A) Any additional item or ingredient proposed to be added (other than the substances prescribed in the said table will be subject to approval by the Food Authority after safety assessment and substantiating scientific evidence.

(i) A declaration "**consume not more than 500 ml per day"** shall be made on the label that represents the per day quantity.

(ii) The per day quantity is the maximum amount of caffeinated beverage (as package or serves) that is consumed in one day and determined as in sub-clause (iii).

(iii) Where any one of the substances given in column (1) of the following table is consumed at the maximum level given in column (2), it shall represent the per day quantity and the declaration shall be made on the basis of the number of packs of serves that cumulatively delivers this amount when consumed in a day.

Explanation: if taurine is used at 1000mg and D-glucurono-Y-lactone at 300mg in a 250ml pack the per day quantity is reached by consuming 2×250ml packs and represents the one-day quantity. If the pack size is a 125ml bottle, then the per day quantity is reached by consuming 4×125ml bottles."

(B) The vitamins namely, thiamine, riboflavin, niacin, vitamin B6, vitamin B12 may be added at one Recommended Daily Allowance level (100% Recommended daily allowance)

Table

Column (1)	**Column (2)**
Substance	Maximum amount per day consumption
Taurine	2000mg
D-glucurono-Y-lactone	1200mg
Inositol	100mg
Pantothenic Acid	10mg

(IV) In respect of ingredients, flavors, sweeteners, food additives, contaminants and microbiological requirement the product shall conform to the standards for carbonated water.

(V) Labelling: The product shall comply with all provisions of General Labelling requirements of Food Safety and Standards (Packaging and Labelling) Regulations, 2011 for pre-packaged foods, with the following additional provisions: -

a) High Caffeine: **"X mg/serving size"** (where X is the amount of caffeine in milligrams per pack/serve;

b) Prominent display of caution **"Not recommended for children, pregnant or lactating women, persons sensitive to caffeine.]**

[35][75][**3. Non-carbonated Water Based Beverages (Non-Alcoholic)** means beverages containing water conforming to the standards prescribed for packaged drinking water or mineral water under these regulations without added carbon dioxide and shall contain ingredients as specified in sub-clause (i), singly or in combination:][75]

(i) Ingredients. - Sugar, liquid glucose, dextrose monohydrate, invert sugar, fructose, honey, salt and salt substitutes, fruits or flowers or vegetables and their products including extractives, herbs, spices and their derivatives and permitted flavouring, singly or in combination and the non-carbonated water may contain caffeine not exceeding 145 parts per million from whatever sources it may be derived in the formulation of the product:

Provided that added herbs shall comply with safety requirements as specified in the Food Safety and Standards Act, 2006 and the regulations made thereunder, and shall also be declared on the label.

(ii) Food Additives.- For products covered under this standard, specific food additives permitted in Appendix A may be used within the limits specified.

(iii) Hygiene.- The products shall conform to the microbiological requirements given in Appendix B.

(iv) Labelling.- The products shall comply with the packaging and labelling requirements as laid down under the provision of the Food Safety and Standards (Packaging and Labelling) Regulations, 2011.

Note:

1. Data of toxicological analysis to be provided for its approval for the herbs other than those specified in the Food Safety and Standards (Health Supplements, Nutraceuticals, Food for Special Dietary Use, Food for Special Medical Purpose, Functional Food and Novel Food) Regulations, 2016, and these regulations when added in the beverages.
2. No psychotropic substance, as defined in the Schedule to the Narcotic Drugs and Psychotropic Substances Act, 1985 (61 of 1985) and the rules made thereunder, and substances listed in Schedules E and E1 of the Drugs and Cosmetics Rules, 1945, shall be included.][35]

[82][**4. Coconut neera**: Coconut neera is the phloem sap from the unopened coconut spadix;

(1) Fresh coconut neera: Fresh coconut Neera, is the sap of the coconut palm (*Cocos nucifera*) and obtained by tapping the unopened inflorescence of the coconut palm without additives.

(2) Processed coconut neera: Processed coconut neera is a pasteurized coconut sap consumed as non-alcoholic drink, which shall conform to the specifications given in the table below:

S.No.	**Parameter**	**Fresh coconut neera**	**Processed coconut neera**
(1)	**(2)**	**(3)**	**(4)**
1.	°Brix (Min.)	14.0	12.0
2.	pH	6.0-7.5	5.0-7.5
3.	Alcohol (%) ; v/v (Max.)	0.5	0.5
4.	Total sugars (%); m/v (Min.)	13.0	12.0
5.	Reducing Sugars (%); m/v, (Min.)	1.0	1.0]

2.10.7 Mineral water

1. Mineral water include all kinds of Mineral Water or Natural Water whatever name it’s called and sold

2. Description and Types of Mineral water.

(i) Natural mineral water is clearly distinguished form ordinary drinking water because

(a) it is characterized by its content of certain mineral salts and their relative proportions and the presence of trace elements or of other constituents;

(b) It is obtained directly from natural or drilled sources from underground water bearing strata and not from Public water supply for which all possible precautions should be taken within the protected perimeters to avoid any pollution of, or external influence on, the chemical and physical qualities of natural mineral water

(c) of the constancy of its composition and the stability of its discharge and its temperature, due account being taken of the cycles of minor natural fluctuations;

(d) It is collected under conditions which guarantee the original microbiological purity and chemical composition of essential components;

(e) It is packaged close to the point of emergence of the source with particular hygienic precautions;

[82][(f) Nitrogen may be used for the purpose of packaging in accordance with Good Manufacturing Practice (GMP);

(g) It is not subjected to any treatment other than those permitted by this standard]

(ii) Naturally Carbonated Natural Mineral Water - A naturally carbonated natural mineral water is a natural mineral water which, after possible treatment as given hereunder and re-incorporation of gas from the same source and after packaging taking into consideration usual technical tolerance, has the same content of carbondioxide spontaneously and visibly given off under normal conditions of temperature and pressure.

(iii) Non-Carbonated Natural Mineral Water- A non-carbonated natural mineral water is a natural mineral water which, by nature and after possible treatment as given hereunder and after packaging taking into consideration usual technical tolerance, does not contain free carbon dioxide in excess of the amount necessary to keep the hydrogen carbonate salts present in the water dissolved.

(iv) Decarbonated Natural Mineral Water - A decarbonated natural mineral is a natural mineral water which, after possible treatment as given hereunder and after packaging, has less carbon dioxide content than that at emergence and does not visibly and spontaneously give off carbon dioxide under normal conditions of temperature and pressure.

(v) Natural Mineral Water Fortified with Carbon Dioxide from the Source - A natural mineral water fortified with carbon dioxide from the source is a natural mineral water which, after possible treatment as given hereunder and after packaging, has more carbon dioxide content than that at emergence.

(vi) Carbonated Natural Mineral Water - A carbonated natural mineral water is a natural mineral water which, after possible treatment as given hereunder and after packaging, has been made effervescent by the addition of carbon dioxide from another origin.

[50][(vii) Natural Spring Water – Natural spring water is natural mineral water which is derived from an underground formation from which water flows naturally to the surface of the earth at an identified location. Spring water shall be collected only at the spring or through a borehole tapping the underground formation feeding the spring. There shall be a natural force causing the water to flow to the surface through an orifice.

The product shall conform to the standards for mineral water as specified in clause 4 of this sub-regulation, except Total Dissolved Solids (TDS) content.

"TDS of the product shall be not more than 750 mg/litre]

[50][3. Treatment and handling]: - Treatment permitted includes separation from unstable constituents, such as compounds containing iron, manganese, sulphur or arsenic, by decantation and/or filtration, if necessary, accelerated by previous aeration.

The treatments provided may only be carried out on condition that the mineral content of the water is not modified in its essential constituents, which give the water its properties.

The transport of natural mineral waters in bulk containers for packaging or for any other process before packaging is prohibited. Natural Mineral water shall be packaged in clean and sterile containers.

The source on the point of emergence shall be protected against risks of pollution.

The installation intended for the production of natural mineral waters shall be such as to exclude any possibility of contamination. For this purpose, and in particular —

(a) 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,

(b) the equipment and its use for production, especially installations for washing and packaging, shall meet hygienic requirements;

(c) if, during production it is found that the water is polluted, the producer shall stop all operations until the cause of pollution is eliminated;

(d) The related packaging and labelling requirements are provided in the Regulation 2.1.2, 2.2.1 and 2.4.5 of Food Safety and Standards (Packaging and Labelling) Regulations, 2011.

[50][4. All Mineral Water shall conform to the following standards], namely:-

Sl.No	Characteristic	Requirements
(1)	(2)	(3)
(1)	Colour, hazen unit/true colour unit	not more than 2
(2)	Odour	Agreeable
(3)	Taste	Agreeable
(4)	Turbidity	Not more than 2 nephelometric turbidity unit (NTU)
(5)	Total Dissolved Solids	150-700 mg/litre
(6)	pH	6.5-8.5
(7)	Nitrates (as NO_3)	Not more than 50 mg/litre
(8)	Nitrites (as NO_2)	Not more than 0.02 mg/litre
(9)	Sulphide (as H_2S)	Not more than 0.05 mg/litre
(10)	Mineral oil	Absent
(11)	Phenolic compounds (as C_6H_5OH)	Absent
(12)	Manganese (as Mn)	Not more than 2.0 mg/litre
(13)	Copper (as Cu)	Not more than 1 mg/litre
(14)	Zinc (as Zn)	Not more than 5 mg/litre
(15)	Fluoride (as F)	Not more than 1 mg/litre
(16)	Barium (as Ba)	Not more than 1.0 mg/litre
(17)	Antimony (as Sb)	Not more than 0.005 mg/litre
(18)	Nickel (as Ni)	Not more than 0.02 mg/litre
(19)	Borate (as B)	Not more than 5 mg/litre

(20)	Surface active agents	Not detectable
(21)	Silver (as Ag)	Not more than 0.01 mg/litre
(22)	Chlorides (as Cl)	Not more than 200 mg/litre
(23)	Sulphate (as SO_4)	Not more than 200 mg/litre
(24)	Magnesium (as Mg)	Not more than 50 mg/litre
(25)	Calcium (as Ca)	Not more than 100 mg/litre
(26)	Sodium (as Na)	Not more than 150 mg/litre
(27)	Alkalinity (as HCO_3)	75-400 mg/litre
(28)	Arsenic (as As)	Not more than 0.05 mg/litre
(29)	Cadmium (as Cd)	Not more than 0.003 mg/litre
(30)	Cyanide (as CN)	Absent
(31)	Chromium (as Cr)	Not more than 0.05 mg/litre
(32)	Mercury (as Hg)	Not more than 0.001 mg/litre
(33)	Lead (as Pb)	Not more than 0.01 mg/litre
(34)	Selenium (as Se)	Not more than 0.05 mg/litre
(35)	Poly nuclear aromatic hydrocarbons	Not Detectable
(36)	Polychlorinated biphenyle (PCB)	Not detectable
(37)	Pesticide Residue	below detectable limits
(38)	"Alpha" activity	Not more than 0.1 Bacquerel/litre (Bq)
(39)	"Beta" activity	Not more than 1 Bacquerel/litre (Bq)]
(40)	Yeast and mould counts	Absent
(41)	Salmonella and Shigella	Absent
(42)	E.Coli or thermotolerant Coliforms 1 x 250 ml	Absent
(43)	Total coliform bacteria A x 250 ml	Absent
(44)	Fecal streptococci and Staphylococcus aureus 1 x 250 ml	Absent
(45)	Pseudomonas aeruginosa 1 x 250 ml	Absent
(46)	Sulphite-reducing anaerobes 1 x 50 ml	Absent
(47)	Vibrocholera 1 x 250 ml	Absent
(48)	V Paraheamolyticus 1 x 250 ml	Absent

[75][Parameters concerning pesticide residues

Sr. No.	Characteristic	Permissible Limit
(1)	(2)	(3)
1.	Pesticide residues considered individually	Not more than 0.0001 mg/l
2.	Total pesticide residue	Not more than 0.0005 mg/l]

[24][5. Blue tint as provided in Indian Standard, IS: 9833 may be allowed in plastic container of five liters and above made of poly carbonate and Poly Ethylene Terephthalate (PET) used for Packaging mineral water:

Provided the overall migration of pigment/colour used in container should not exceed 60 mg/liter as per IS: 9845.]

[23][2.10.8 Packaged Drinking Water (other than Mineral Water)

1. Means water, other than natural mineral water that is likely to be used for human consumption and that is offered or sold in packaged form, by whatever name it may be called, offered or sold.

[75][2. Water shall be derived from surface water or civic water supply or underground water or sea water or any other consistent source of water which may be subjected to herein under specified treatments, namely, decantation, distillation, filtration, combination of filtration, aerations, filtration with membrane filter depth filter, cartridge filter, activated carbon filtration, demineralization, remineralization, reverse osmosis and packed after disinfecting the water to a level that shall not lead to any adverse effect in the drinking water by means of chemical agents or physical methods to reduce the number of micro-organisms to a level scientifically accepted level for food safety or its suitability.]

3. It shall be filled in sealed containers of various compositions, forms and capacities that are suitable for direct consumption without further treatment. In case remineralization is a part of the treatment process, the ingredients used shall conform to food grade/pharma grade quality.

[82][4. Nitrogen may be used for the purpose of packaging in accordance with Good Manufacturing Practice (GMP).

4.a. Packaged drinking water shall be clear without any sediments, suspended particles and extraneous matter. It shall also comply with the requirements given in Tables 1, 2, 3, 4, 5 and 6.]

Table 1: Microbiological Requirements

Packaged drinking water shall comply with the following requirements:

Sr. No.	Characteristic	Permissible Limit
(1)	(2)	(3)
1.	*Coliform* bacteria, cfu/250 ml	Absent
2.	*Faecal Streptococci*, and *Staphylococcus aureus*, cfu /250 ml	Absent
3.	*Sulphite Reducing Anaerobes*, cfu/50 ml	Absent
4.	*Pseudomonas aeruginosa*, cfu*/250 ml*	Absent
5.	Aerobic Microbial Count at 20-22^{o} C in 72 h, cfu /ml, max	100
	at 37± 1^{o} C in 24 h, cfu /ml, max	20
6.	Yeast and mould/ 250 ml	Absent
7.	*Salmonella and Shigella*, cfu/250 ml	Absent
8.	*Vibrio cholera*, and *V. parahaemolyticus* cfu/250 ml	Absent

Table 2: Organoleptic and physical parameters

Sr. No.	Characteristic	Permissible Limit
(1)	(2)	(3)
1.	Colour, true colour units, *Max*	2
2.	Odour	Agreeable as per IS-3025 Part 5 for odour.
3.	Taste	Agreeable [Action Tendency Scale a) or b) or c)] as per IS-3025 part 8 for taste.
4.	Turbidity, nephelometric turbidity unit (NTU), Max	2

5.	Total dissolved solids, mg/l, Max	500
6.	pH	6.0 - 8.5

Table 3: General parameters concerning substances undesirable in excessive amounts

Sr. No.	Characteristic	Permissible Limit
(1)	(2)	(3)
1.	Barium (as Ba), mg/l, Max	0.7
2.	Copper (as Cu), mg/l, *Max*	0.05
3.	Iron (as Fe), mg/l, *Max*	0.1
4.	Manganese (as Mn), mg/l, *Max*	0.1
5.	Nitrate (as NO_3) mg/l, *Max*	45
6.	Nitrite (as NO_2), mg/l, *Max*	0.02
7.	Fluoride (as F), mg/l, *Max*	1.0
8.	Zinc (as Zn), mg/l, *Max*	5
9.	Silver (as Ag), mg/l, *Max*	0.01
10.	Aluminium (as A1), mg/l, *Max*	0.03
11.	Chloride (as Cl), mg/l, *Max*	200
12.	Selenium (as Se), mg/l, *Max*	0.01
13.	Sulphate (as SO_4), mg/l, *Max*	200
14.	Alkaliniity (as HCO_3), mg/l, *Max*	200
15.	Calcium (as Ca), mg/l, *Max*	75
16.	Magnesium (as Mg) , mg/l, *Max*	30
17.	Sodium (as Na), mg/l, *Max*	200
18.	Residual free chloride, mg/l, *Max*	0.2
19.	Phenolic compounds (as C_6H_5OH),	Absent
20.	Mineral oil	Absent
21.	Anionic surface active agents (as MBAS), mg/l, *Max*	0.2
22.	Sulphide (as H_2S), mg/l, *Max*	0.05
23.	Antimony (as Sb), mg/l, *Max*	0.005
24.	Borates (as B), mg/l, *Max*	5
25.	Bromates (as BrO_3), mg/l, *Max*	0.01

[82][Note: Where water for use in a food product is specified to be conforming to the standards of Packaged Drinking Water, the minimum limit specified for calcium and magnesium shall not apply.]

Table 4 Parameters concerning toxic substance

Sr. No.	Characteristic	Permissible Limit
(1)	(2)	(3)
1.	Mercury (as Hg), mg/l, *Max*	0.001
2.	Cadmium (as Cd), mg/l, *Max*	0.003
3.	Arsenic (as As), mg/l, *Max*	0.01
4.	Cyanide (as CN)	Absent
5.	Lead (as Pb), mg/l, *Max*	0.01
6.	Chromium (as Cr), mg/l, *Max*	0.05
7.	Nickel (as Ni), mg/l, *Max*	0.02
8.	Polychlorinated biphenyle (PCB)	Not detectable
9.	Polynuclear aromatic hydrocarbons	Not detectable

Table 5 Parameters concerning radio-active residues

Sr. No.	Characteristic	Permissible Limit
(1)	(2)	(3)
1.	Alpha emitters, Becquerel (Bq/l), *Max*	0.1
2.	Beta emitters, Becquerel (Bq/l), *Max*	1

Table 6 Parameters concerning pesticide residues

Sr. No.	Characteristic	Permissible Limit
(1)	(2)	(3)
1.	Pesticide residues considered individually	Not more than 0.0001 mg/l
2.	Total pesticide residue	Not more than 0.0005 mg/l

5. The product shall comply with labelling requirements as laid down under the Food Safety and Standards (Packaging and Labelling), Regulations, 2011.]

[24][6. Blue tint as provided in Indian Standard, IS: 9833 may be allowed in plastic container of five liters and above made of poly carbonate and Poly Ethylene Terephthalate (PET) used for packaging packaged drinking water:

Provided the overall migration of pigment or colour used in container should not exceed 60 mg/liter as per IS: 9845.]

[58][**2.10.9 Drinking Water (Purified)**. - (1) Means water, other than packaged drinking water and natural mineral water which is offered or sold through water vending machine.

(2) Drinking water (purified) shall be clear without any sediments, suspended particles and extraneous matter which shall also comply with the requirements of Indian Standards, IS:10500.

Explanation. - For the purposes of this sub-regulation, "water vending machine" means decentralised water purification systems that purify and dispense waters and does not include installation intended for use of water for captive consumption]