Notice Calling for suggestions, views, comments etc from WTO- SPS Committee members within a period of 60 days on the draft notification related to :(i) Deletion of Bellier Test; (ii)Refined vegetable oil, (iii)blended edible vegetable oil, (iv) Reduction in trans fat; (v) Cherries with stem; (vi) Processed fruit juice; (vii)Processed vegetable juice; (viii) Cashew Kernel; (ix) water chestnut flour (Singhare ka Atta), (x) Colouring Foods; (xi) Definition in 2.5.1; (xii) Animal Casings; (xiii)Frozen Egg Products; (xiv) Egg Powder; (xv) Liquid Egg Products; (xvi) Pickled Eggs; (xvii) Pasteurized Fish Sausage; (xviii) Pasteurised Crab Meat; (xix) Gelatin from fish processing waste; (xx)use of mineral water in nonalcoholic beverages, (xxi) Baking Powder; (xxii) Amendment in 2.12 (Proprietary Food); (xxiii) TSS content in the fruits and vegetables products.

#### File No. 1-116/Scientific Committee/Notif./2010-FSSAI.-

- 1. In the Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011 (hereinafter referred to as the said regulations),-
- (1) in regulation 1.2, for clause (17), following shall be substituted, namely:
- "17. "Refined Vegetable Oil" means any vegetable oil which is obtained by expression or solvent extraction of vegetable oil bearing materials, deacidified with alkali and/or by physical refining and/or by miscella refining using permitted food grade solvents and/or degumming using phosphoric/citric acid and any suitable food grade enzyme followed by bleaching with absorbent earth and/or activated carbon and deodorized with steam without using any other chemical agents."
- (2) in regulation 2.2,-
- (a) in sub-regulation 2.2.1,-
  - (i) in clause (2), the following words and figures shall be omitted, namely:-

"Bellier Test (Turbidity temperature- Acetic acid method)-19 °C -21 °C.";

(ii) in clause (3), the following words and figures shall be omitted, namely:-

"Bellier Test (Turbidity temperature- Acetic acid method)-39 °C -41 °C.";

(iii)in clause (6), the following words and figures shall be omitted, namely:-

"Bellier Test (Turbidity temperature- Acetic acid method)-23 °C -27.5 °C.";

(iv) in clause (7), the following words and figures shall be omitted, namely:-

"Bellier Test (Turbidity temperature- Acetic acid method)-Not more than 19 °C.";

- (v) in clause (8), in sub-clause (3), the parameter "Bellier Test (Max)" and the values prescribed against it shall be omitted;
- (vi) in clause (10), the following words and figures shall be omitted, namely:-

"Bellier Test (Turbidity temperature- Acetic acid method)-Not more than 16 °C.;"

(vii) in clause (10.1), the following parameter and values prescribed against it, shall be omitted, namely:-

"Bellier Test (Turbidity temperature- Acetic acid method)-Not more than 16 °C.";

(viii) in clause (12),-

(A) the following words and figures shall be omitted, namely:-

"Bellier Test (Turbidity temperature- Acetic acid method)-Not more than 22 °C.";

(B) in the proviso, the following words and figures shall be omitted, namely:-

"Bellier Test (Turbidity temperature- Acetic acid method)-Not more than 22 °C.";

(ix) in clause (13), the following words and figures shall be omitted, namely:-

"Bellier Test (Turbidity temperature- Acetic acid method)- 25 °C-29°C.";

(x) for clause (16), the following shall be substituted, namely:-

"**16. Refined vegetable oil.-** (1) Refined Vegetable Oil means any vegetable oil which is obtained by expression or solvent extraction of vegetable oil bearing materials, deacidified with alkali and/or physical refining and/or by miscella refining using permitted food grade solvents and/or degumming using phosphoric/citric acid and any suitable food grade enzyme, followed by bleaching with absorbent earth and/or activated carbon and deodourised with steam. No other chemical agent shall be used. The name of the vegetable oil from which the refined oil has been manufactured shall be clearly specified on the label of the container. In addition to the under-mentioned standards to which refined vegetable oils shall conform to, the standards prescribed in these regulations for the specified edible oils shall also apply except for acid value which shall be not more than 0.6. Moisture shall not exceed 0.10 per cent by weight. Trans fatty acids shall not be more than 5 % by weight. Provided that the maximum limit of trans fatty acids shall not be more than 2% by weight, after 2 years of final notification. Test for argemone oil shall be negative. The refined vegetable oil shall be obtained from the vegetable oils standardized in these regulations.

(2) The refined vegetable oil shall comply with the following requirements.- The oils shall be clear and free from rancidity, adulterants, sediments, suspended and other foreign matter, separated water, added colouring and flavouring substances and mineral oil.

(3) However, it may contain food additives permitted in these Regulations and Appendices.";

(xi) in clause (17), the following words and figures shall be omitted, namely:-

"Bellier Test (Turbidity temperature- Acetic acid method)- Not more than 60 °C.";

(xii) in clause (22), for the words and figures "Acid value Not more than 6.0", the words and figures "Acid value Not more than 6.0 mg KOH/g oil and Not more than 4.0mg KOH/g oil (for imported sunflower seed oil)" shall be substituted;

(xiii) in clause (22.01), for the table, the following table shall be substituted, namely:-

S.No.	Parameters	Limits
1.	Butyro-refractometer reading at 25°C or Refractive Index at 25°C	61.7-68.0 1.467-1.471
2.	Iodine value (Wij's method)	78-90
3.	Saponification value	182-194
4.	Unsaponifiable matter	Not more than 1.5%
5.	Acid value	Not more than 4.0mg KOH/g Oil
6.	Test for Argemone oil	negative

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(xiv) for clause 22 relating to Blended Edible Vegetable oils, for the first paragraph, the following paragraph shall be substituted, namely:-

**"24. Blended edible vegetable oil** means an admixture of any two edible vegetable oils where the proportion by weight of any edible vegetable oil used in the admixture is not less than 20 per cent. The individual oils in the blend shall conform to the respective standards prescribed by these regulations.

Blended Edible Vegetable oil shall have balanced ratio of Saturated fatty acids, Mono unsaturated fatty acids and Poly unsaturated fatty acids to be 1:1-1.5:1. Each type of fatty acid may vary  $\pm 10\%$  from this ratio.

Blended Edible Vegetable Oil may have an ideal ratio of omega 3 and omega 6 to be in the range of 1:5 to 1:10. Third oil namely Chia oil and/or Flaxseed/Linseed Oil, upto 5 % of the total oil, may be added if the blended edible vegetable oil is claimed to have an ideal ratio of omega 3: omega 6.

The blend shall be clear, free from rancidity, suspended or insoluble matter or any other foreign matter, separated water, added colouring matter, flavouring substances, mineral oil, or any other animal and non-edible oils, or fats, argemone oils, hydrocyanic acid, castor oil and tricresyl phosphate. It shall also conform to the following standards"

#### (b) in sub-regulation 2.2.2,-

(i) in clause (iii), the proviso shall be omitted;

(ii) for clause (v), the following shall be substituted, namely:-

"It shall not contain trans fatty acids more than 5 % by weight:

Provided that maximum limit of trans fatty acid shall not be more than 3% by weight, on and from 1<sup>st</sup> January, 2021 and not more than 2% by weight, on and from 1<sup>st</sup> January, 2022".

#### (c) in sub-regulation 2.2.3,-

(i) in clause (1), after the last paragraph, the following words and figures shall be inserted, namely:-

"The oil shall not contain trans fatty acids more than 5 % by weight: Provided that maximum limit of trans fatty acid shall not be more than 3% by weight, on and from 1<sup>st</sup> January, 2021 and not more than 2% by weight, on and from 1<sup>st</sup> January, 2022."

(ii) in clause (2), after the last paragraph, the following words and figures shall be inserted, namely:-

"The oil shall not contain trans fatty acids more than 5 % by weight: Provided that maximum limit of trans fatty acid shall not be more than 3% by weight,

on and from 1st January, 2021 and not more than 2% by weight, on and from 1st January, 2022."

(d) in sub-regulation 2.2.5,-

(i) in clause (1), after the last paragraph, the following words and figures shall be inserted, namely:-

"It shall not contain trans fatty acids more than 5 % by weight:

Provided that maximum limit of trans fatty acid shall not be more than 3% by weight, on and from 1<sup>st</sup> January, 2021 and not more than 2% by weight, on and from 1<sup>st</sup> January, 2022."

(ii) in clause (2), for sub-clause (ii) and for the proviso, the following shall be substituted, namely:-

" (ii) Trans fatty acids - Not more than 5 % by weight.

Provided that maximum limit of trans fatty acid shall not be more than 3% by weight, on and from 1<sup>st</sup> January, 2021 and not more than 2% by weight, on and from 1<sup>st</sup> January, 2022."

(iii) in clause (3), in the paragraph beginning with the words "The Fat content" and ending with the words "the total fat content" the following words and figures shall be inserted, namely:-

"The Vegetable fat spread and Mixed fat spread shall not contain trans fatty acids more than 5 % by weight.

Provided that maximum limit of trans fatty acid shall not be more than 3% by weight, on and from 1<sup>st</sup> January, 2021 and not more than 2% by weight, on and from 1<sup>st</sup> January, 2022."

(e) in sub-regulation 2.2.6,-

(i) in clause (1),-

- (A) in sub-clause (iii), the proviso shall be omitted.
- (B) in sub-clause (vii), for the item (b) and the proviso, the following words and figures shall be substituted, namely:-

"Trans fatty acids - Not more than 5 % by weight:

Provided that maximum limit of trans fatty acid shall not be more than 3% by weight, on and from 1<sup>st</sup> January, 2021 and not more than 2% by weight, on and from 1<sup>st</sup> January, 2022."

(ii) in clause (2), for sub-clause (a) and the proviso, the following words and figures shall be substituted, namely:-

"Trans fatty acids - Not more than 5 % by weight:

Provided that maximum limit of trans fatty acid shall not be more than 3% by weight, on and from 1<sup>st</sup> January, 2021 and not more than 2% by weight, on and from 1<sup>st</sup> January, 2022"

- (3) in regulation 2.3,-
- (a) in sub regulation 2.3.1,
- (i) in first paragraph after the words "so as to prevent spoilage.", the following shall be inserted, namely:-

"Cherries may contain stems and shall be labelled accordingly." (ii) after item (ii), the following shall be inserted, namely:-

"In case of cherries with stems, drained weight of the cherries shall be calculated after removal of the stems from the cherries."

(b) In sub regulation 2.3.6 relating to "Thermally processed fruit Juices", following shall be substituted namely:-

## 2.3.6 PROCESSED FRUIT JUICES

- (1) For the purpose of this clause,
  - a) **Thermally Processed Fruits Juices** (Canned, Bottled, Flexible and/or Aseptically Packed)means unfermented but fermentable product, pulpy, turbid or clear, intended for direct consumption obtained by a mechanical process from sound, ripe fruit or the flesh thereof and processed by heat, in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage. The juice may have been concentrated and later reconstituted with water suitable for the purpose of maintaining the essential composition and quality factors of the juice.
  - b) **Non-Thermally Processed or Cold-pressed or Fresh Fruit Juices** means unfermented but fermentable product, pulpy, turbid or clear, intended for direct consumption obtained directly by mechanical extraction processes, from the edible parts of sound, ripe and fresh fruit. It may undergo non-thermal processing, in an appropriate manner. No external heat shall be applied during the process."

(2). Product shall maintain the essential physical, chemical, organoleptic and nutritional characteristics of the fruit from which it comes. It may contain salt, spices and condiments and their extracts and nutrients

(vitamins, minerals) which are prescribed under these regulations. One or more of the nutritive sweeteners may be added in amounts not exceeding 50 g/kg but not exceeding 200g/kg in very acidic fruits except in case of Apple Juice, Orange Juice (reconstituted from concentrate), Grape Juice, Pineapple Juice (reconstituted from concentrate).

(3). The product shall have the characteristic colour, aroma and flavour of the fruit from which it has been prepared taking into consideration the addition of permitted ingredients.

(4). The product shall meet the following requirements, namely:—

S.No	S.No Name of the Fruit Botanical name		Total Soluble Solids in °Brix (Min)	le Acidity expressed as Citric Acid Max.(%)	
(1)	(2)	(3)	(4)	(5)	
1	Cashewapple	Anacardium occidentale L.	11.5	3.5	
2	Pineapple	Ananas comosus (L.) Merrill Ananas sativis L. Schult. f.	10.0	3.5	
3	Soursop	Annona muricata L.	14.5	3.5	
4	Sugar Apple	Annona squamosa L	14.5	3.5	
5	Carambola / Starfruit	Averrhoa carambola L.	7.5	3.5	
6	Water Melon	<i>Citrullus lanatus (Thunb.)</i> Matsum. & Nakai var. Lanatus	8.0	3.5	
7	Lime	<i>Citrus aurantifolia</i> (Christm.) (swingle)	7.0	6.0(Min)	
8	Lemon	Citrus limon (L.) Burm. f. Citrus limonum Rissa	7.0	5.0(Min)	
9	Grape fruit	Citrus paradisi Macfad	8.0	0.9	
10	Sweetie grapefruit	Citrus paradisi, Citrus grandis	7.5	0.8	
11	Mandarine/ Tangerine	Citrus reticulata Blanca	10.0	0.7	
12	Orange	Citrus sinensis (L.)	10.0	0.5	
13	Coconut*	Cocos nucifera L.	5.0	3.5	
14	Melon	Cucumis melo L.	8.0	3.5	
15	Casaba Melon	Cucumis melo L subsp. melo var. inodorus H. Jacq.	7.5	3.5	
16	Honeydew Melon	Cucumis melo L. subsp. melo var. inodorus H. Jacq	10.0	3.5	
17	Quince	Cydonnia oblonga Mill.	11.2	3.5	
18	Crowberry	Empetrum nigrum L.	6.0	3.5	
19	Suriname Cherry	Eugenia uniflora Rich.	6.0	3.5	
20	Fig	Ficus carica L.	18.0	3.5	
21	Strawberry	Fragariax.ananassaDuchense(FragariachiloensisDuchesnexFragariaDuchesne)virginiana	7.5	3.5	
22	Genipap	Genipa americana	17.0	3.5	
23	Buckthorn berry or Sallow-thornberry	Hipppohae rhamnoides L.	6.0	3.5	
24	Litchi/Lychee	Litchi chinensis Sonn.	11.2	3.5	
26	Acerola (West Indian Cherry)	Malpighia sp. (Moc. & Sesse)	6.5	3.5	

Table

27	Apple	Malus domestica Borkh.	10.0	3.5 (as malic acid)	
28	Crab Apple	Malus prunifolia (Willd.) Borkh. Malus sylvestris Mill.	15.4	3.5	
29	Mango	Mangifera indica L	13.5	3.5	
30	Passion Fruit	Pasiflora edulis Sims. f. edulus Passiflora edulis Sims. f. Flavicarpa O. Def.	12.7	3.5	
31	Date	Phoenix dactylifera L.	18.5	3.5	
32	Apricot	Prunus armeniaca L.	11.5	3.5	
33	Sweet Cherry	Prunus avium L.	20.0	3.5	
34	Sour Cherry	Prunus cerasus L.	14.0	3.5	
35	Stonesbaer	Prunus cerasus L. cv. Stevnsbaer	17.0	3.5	
36	Plum / Quetsche	Prunus domestica L. subsp. domestica	12.0	3.5	
37	Prune	Prunus domestica L. subsp. domestica	18.5	3.5	
38	Nectarine	Prunus persica (L.) Batsch var. nucipersica (Suckow) c. K. Schneid.	10.5	3.5	
39	Peach	Prunus persica (L.) Batsch var. persica	10.5	3.5	
40	Sloe	Prunus spinosa L.	6.0	3.5	
41	Guava	Psidium guajava L.	8.5	3.5	
42	Pomegranate	Punica granatum L.	12.0	3.5	
43	Pear	Pyrus communis L.	12.0	3.5	
44	Black Currant	Ribes nigrum L.	11.0	3.5	
45	Red Currant /White Currant	Ribes rubrum L.	10.0	3.5	
46	Goosberry	Ribes uva-crispa L.	7.5	3.5	
47	Rosehip	Rosa sp. L.	9.0	3.5	
48	Cloudberry	Rubus chamaemorus L.	9.0	3.5	
49	Blackberry	Rubus fruitcosus L.	9.0	3.5	
50	Dewberry	<i>Rubus hispidus</i> (of North America) <i>R. caesius</i> (of Europe)	10.0	3.5	
51	Red Raspberry	Rubus idaeus L. Rubus strigosus Michx.	8.0	3.5	
52	Loganberry	Rubus loganobaccus L. H. Bailey	10.5	3.5	
53	Black Raspberry	Rubus occidentalis L.	11.1	3.5	
54	Boysenberry	Rubus ursinus Cham. & Schltdl.	10.0	3.5	
55	Youngberry	Rubus vitifolius x Rubus idaeus Rubus baileyanis	10.0	3.5	
56	Elderberry	Sambucus nigra L. Sambucus canadensis.	10.5	3.5	
57	Rowanberry	Sorbus aucuparia L.	11.0	3.5	
58	Cajá	Spondia lutea L.	10.0	3.5	
59	Umbu	Spondias tuberosa Arruda ex Kost.	9.0	3.5	
60	Tamarind (Indian date)	Tamarindus indica	13.0	3.5	
61	Cocoa pulp	Theobroma cacao L.	14.0	3.5	
62	Cupuaçu	Theobroma grandiflorum L.	9.0	3.5	
63	Cranberry	Vaccinium macrocarpon Aiton & Vaccinium oxycoccos L.	7.5	3.5	

64	Bilberry/Blueberry	Vaccinium myrtillus L. Vaccinium corymbosum L. Vaccinium	10.0	3.5
		angustifolium		
65	Lingonberry	Vaccinium vitis-idaea L.	10.0	3.5
66	Grape	Vaccinium vitis-idaea L.	16.0	3.5
		Vitis Vinifera L. or hybrids thereof		
		Vitis Labrusca or hybrids thereof		
67	Tomato <sup>**</sup>	Solanum lycopersicum L.	5.0	3.5
68	Sapota	Manilkara zapota	16.0	0.5
69	Jamun	Syzygium cumini	11.0	3.5
70	Banana	Musa acuminata, Musa balbisiana	19.0	1.5
		and Musa $ imes$ paradisiaca		
71	Other fruit juices		10.0	3.5
72	Juice of two or		10.0	3.5
	more fruits			

**Note:** *\*This product is "coconut water" which is obtained from the tender coconut without expressing the coconut meat.* 

\*\* For Non thermally processed/Cold pressed/Fresh tomato juice only.

(5) The container shall be well filled with the product and shall occupy not less than 90 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at  $20^{\circ}$ C which the sealed container is capable of holding when completely filled.

(6) The product may contain food additives permitted in Appendix A.

(7) The product shall conform to the microbiological requirement given in Appendix B.

(8) The products covered by this Standard shall be labelled in accordance with the Food Safety and Standards (Packaging and Labelling) Regulations, 2011. In addition, in the ingredient list, the word "reconstituted" shall be mentioned against the name of the juice, which is reconstituted from the concentrate. The product shall be labelled as Sweetened juice if the added nutritive sweeteners are in excess of 15 gm/kg.

(c) In Sub regulation 2.3.7 relating to "Thermally processed vegetable Juices", following shall be substituted

namely:-

# **"2.3.7 PROCESSED VEGETABLE JUICES**

(1) For the purpose of this clause,-

- (a) Thermally Processed Vegetable Juices (Canned, Bottled, Flexible Pack and/or Aseptically Packed) means the unfermented but fermentable product intended for direct consumption obtained from the edible part of vegetables including roots ,tubers, stems, shoots, leaves, flowers, legumes singly or in combination. The product may be clear, turbid or pulpy, may have been concentrated & reconstituted with water suitable for the purpose of maintaining the essential composition & quality factors of the juice and processed by heat, in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage;
- (b) Non-Thermally Processed/Cold-pressed/ Fresh Vegetable Juices means the unfermented but fermentable product intended for direct consumption obtained from the edible part of vegetables, including roots, tubers stems, shoots, leaves, flowers and legumes singly or in combination. The product may be clear, turbid or pulpy. It shall be obtained directly expressed by mechanical extraction processes, packed in suitable packaging material and may undergo non-thermal processing in an appropriate manner. No external heat shall be applied during the process.

(2) The product may contain edible salt, spices and condiments and their extracts, vinegar, nutritive sweeteners and nutrients (e.g. vitamins, minerals) which are prescribed under these regulations.

(3) Whey or lactoserum having undergone lactic acid fermentation may also be added not more than 100 ml/litre.

(4) The product shall have the characteristic colour, aroma and flavour of the vegetables from which it has been prepared taking into consideration the addition of ingredients.

(5) The container shall be well filled with the product and shall occupy not less than 90 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

(6) The product may contain food additives permitted in Appendix A.

(7) The product shall conform to the microbiological requirement given in Appendix B.

(8) The products covered by this Standard shall be labelled in accordance with the Food Safety and Standards (Packaging and Labelling) Regulations, 2011.In addition, in the ingredient list, the word "reconstituted" shall be mentioned against the name of the juice, which is reconstituted from the concentrate. "Vegetable juice with added lactic acid fermented whey/lactoserum" shall be mentioned when whey or lactoserum is added.

(d) In sub regulation 2.3.9, in clause (2), in table the parameter "TSS Min(%)" and the entries relating thereto shall be omitted;

(e) in sub-regulation 2.3.10, in clause (2), item (i) relating to "Total Soluble Solid (m/m) and the entries relating thereto shall be omitted;

(f) in sub-regulation 2.3.30, in clause (2), item (i) relating to "Total Soluble Solid (m/m) and the entries relating thereto shall be omitted;

(g) in sub regulation 2.3.47, after clause 6, following shall be inserted namely:-

# 7. CASHEW KERNELS

(1) Cashew kernels shall be obtained by roasting, shelling and peeling of the cashew nuts (*Anacardium occidentale* Linnaeus). The kernels shall be sound, clean, sufficiently developed and dry. Cashew kernels shall be free from any rancidity, shell liquid, foreign smell and/or taste, living insects, mites and moulds. It shall also be free from any, dead insects, rodent contamination, insect fragments and damage caused by insects, mites or other parasites visible to the naked eye.

(2) The kernels shall be of uniform and characteristic colour. They may be either in the form of whole or pieces.

(3) It shall conform to the following requirements, namely:-

Sr. No.	Parameter	Limit	
(i)	(i) Moisture content, percent by mass( <i>Maximum</i> )		
(ii)	Acid-insoluble ash, percent by mass, on dry basis (Maximum)	0.1	
(iii)	Total tolerances percent by mass(Maximum)	5	
	a. Superficial damage (Maximum)	2.0	
	b. Immature or shrivelled (deformed) (Maximum)	2.0	
	c. Speckled or spotted (black or brown) (Maximum)	0.5	
	d. Presence of testa (Maximum)	2.0	
	e. Insect damage (Maximum)	0.5	
	f. Foreign matter (Maximum)	0.05	

Table

	g. Extraneous vegetable matter (Maximum)	1.0
(iv)	Free fatty acid (expressed as oleic acid) percent(Maximum)	1.25
(v)	Peroxide value meq/kg (Maximum)	10.0

Explanations: For the purpose of this standard, the following definitions shall apply:

(i) Superficial damage: Damage adversely affecting the appearance of the product, including blemishes and areas of discoloration. Scraped kernels, where characteristic shape is not affected are not considered defective

(ii) Spotted or speckled: the presence of black or brown spots or specks.

(iii) Insect damage: Containing dead insects, mites, insect fragments, webbing, frass, excreta, or visible damage caused by boring and feeding of insects and animal parasites.

(iv) Mould: Mould filaments either on the inside or the outside of the kernel visible to the naked eye.

(v) Rancidity: Oxidation or free fatty acid production in the lipids producing a disagreeable flavour.

(vi) Foreign Matter: Any matter or material not usually associated with the product.

(vii) Testa: Skin adhering to any portion of the kernel.

(viii) Extraneous vegetable matter: Vegetative matter associated with the plant from which the product originates.

(4) The product may contain Food Additives permitted in Appendix A.

(5) The product shall conform to the microbiological requirement given in Appendix B.

(h) After sub regulation 2.3.63, following shall be inserted, namely:-

# "2.3.64 WATER CHESTNUT FLOUR (SINGHARE KA ATTA).-

(1) Water Chestnut flour means the product obtained by grinding clean, sound and dried nuts of *Trapa bispinosa* or *Trapa quadrispinosa* species commonly known as Singhara. It shall be white in colour, and shall be free from rancid and objectionable odour, extraneous matter, insects, fungus, rodent hair and excreta. It shall be free from added colour and flavour. It shall conform to the following standards, namely:—

Table

	Tuble	
S.No.	Characteristics	Requirements
1.	Moisture % (m/m), Maximum	12.0
2.	Alcoholic acidity % (with 90 per cent alcohol) expressed as	0.18
	H <sub>2</sub> SO <sub>4</sub> (on dry basis), Maximum	
3.	Ash insoluble in dilute HCl % (m/m), Maximum	0.5
5.	Protein content % (m/m) on dry basis, Minimum	9.0
6.	Uric acid	100 mg/kg

(2) The product may contain food additives permitted in Appendix A.

(3) The product shall conform to the microbiological requirement given in Appendix B.

## **2.3.65** Colouring Foods

(1) Colouring foods, means product obtained from the fruits, vegetables, spices and herbs with aqueous extraction which are normally consumed as such or normally used as a characteristic ingredient of food. It shall be prepared without a selective extraction of pigments in dried or in the concentrated form. It shall retain their essential characteristics and shall be used as ingredients in food products for the primary function of colouring. It shall have characteristic colour, taste, odour to the source material.

(2) It may include nutritive sugars not exceeding 20% by weight of the final product in case of liquid and maltodextrin in case of powder to make the product stable.

(3) It shall conform to the following requirements, namely:-

Table			
Requirements	Liquid	Powder	

Total solids (g/100g) Min	55	90
Marker Pigment % Min	0.5	1.0

(4) The product may contain Food Additives permitted in Appendix A.

(5) The product shall conform to the microbiological requirement given in Appendix B.

### (4) in regulation 2.5,-

(a) in sub-regulation 2.5.1, for the clause (b) to (e), the following shall be substituted, namely-

(b) "carcass" means the body of any slaughtered food animal after bleeding and dressing;

(c) "meat" means all edible parts (including edible offal) of any food animal slaughtered in an abattoir that are intended for or have been judged as safe and suitable for, human consumption;

(d) "offal" means all the body parts of slaughtered food animals other than carcass;

(e) "edible offal tissue" are those parts of an animal apart from meat from the carcass that are considered fit for human consumption;

(f) "meat food products" means any product prepared from meat and other ingredients through various processing methods in which meat should be the major ingredient of all the essential ingredients but shall not include the following products:

- (i) Meat extracts, soup, stock and meat sauces;
- (ii) Products containing fragments of meat, but which contain a quantity of meat or meat product not exceeding ten percent of the total weight of the final product;

(g) "slaughter" means killing of food animals for human consumption in an authorized slaughterhouse; (h)"Slaughter house/ abattoir" means a licensed place/ building/ premises where food animals are slaughtered humanely in hygienic manner with proper ante-mortem and post-mortem inspection by veterinarian for human consumption;

(i) "Egg" means eggs-in-shell other than broken, incubated or cooked eggs, laid by poultry species or birds meant for direct human consumption or for the preparation of egg products."

(b) in sub-regulation 2.5.2, after clause (13), the following clause shall be inserted, namely:-

#### **"14. Animal Casings**

(1) The standard specified in this clause shall apply to "Animal casings" which are soft cylindrical containers used for preparation of certain meat products such as sausages.

(2) Animal casings are soft cylindrical containers obtained from large and small intestines, oesophagus and urinary bladder of slaughtered food animals.

(3) The casings shall be dried or wet salted and are calibrated by measuring the diameter in case of wet salted casings and measuring half circumference in case of dried casings.

(4) The product shall be free from holes, blisters, lacerations, nodules, cicatrices, domestics, black nodes, slime, mucus, dung, salt burns, rust, moulds or fungus infestation, signs of putrefaction, rancidity or sour (acidic) smell and parasitic infestation.

(5) for the purpose of this clause,-

- (a) Cicatrix Scar of healed-up wound;
- (b) Domestic Small grease spot in the casing;
- (c) Kink Twisted loop in the casing;
- (d) Nodule Small rounded structure;
- (e) Black Node Black node usually caused by the residue of the ingesta or slime left behind in the casing;
- (f) Rust Black spots caused by putrefaction due to bacterial or fungal action;
- (g) Salt Burn Areas of discolouration generally caused by: (a) the entry of air-into tin containers in which the casings are packed, and/or (b) by the use of poor quality salt.

(6) Large and small intestines, oesophagus and urinary bladder shall be separated from adhering tissues and the contents should be stripped off by uniform gentle pressing either mechanically or manually. This step is followed by washing, salting and/or drying and sorting.

(7) The products may contain Food Additives permitted in Appendix A.

(8) The products shall conform to the microbiological requirement given in Appendix B.

(c) in sub-regulation 2.5.3, after clause (1), the following clause shall be inserted, namely:-

2. Frozen Egg Products.- (1) The standard specified in this clause shall apply to frozen egg products designated as "Frozen egg white or albumen", "frozen egg yolk" and "frozen whole egg" prepared from hens' (Gallus gallus) eggs packaged in any suitable packaging material.

(2) for the purpose of this clause,-

(a) Frozen egg product means the whole egg, egg yolk, or white which is pasteurized and frozen;

(b) Whole egg means the homogeneous product obtained from the complete contents of broken out hens eggs-in-shell;

(c) Egg yolk means the homogeneous product produced from the separation of the yolk of broken out hens eggs-in-shell;

(d) Egg albumen means the homogeneous product obtained from the separation of the white of broken out hens eggs-in-shell.

(3) Shell eggs are washed, rinsed, sanitized, and candled, then broken, monitored for quality and imperfections, and frozen egg products are prepared by freezing either albumen, yolk or whole egg.

(4) Albumen and yolk alone and whole egg shall be processed strained, homogenized, desugarized, pasteurized (61 to 63 degree C for 5 minutes), frozen and maintained in the frozen condition (-23.3 $^{\circ}$  to -40 $^{\circ}$ C).

(5) Minimum requirements of major chemical constituents of the frozen egg products:-

Table				
Composition	Frozen egg white	Frozen egg yolk	Frozen whole egg	
Min solids matter content (%)	10.5	40.0	22.0	
Min fat content (%)	0.05	25.0	9.8	
Min protein content (%)	10.0	15.0	10.5	
Extraneous matter	No particles over 1 mm in 100 g and should not exceed 100 mg/kg	U	No particles over 1 mm in 100 g and should not exceed 100 mg/kg	
Min. concentration of hydrogen ions (pH)	8.5	5.9	7.0	
Max. beta-hydroxybutyric acid (mg/kg)	10	10	10	
Max lactic acid (mg/kg)	1,000	1,000	1,000	
Max succinic acid (mg/kg)	25	25	25	

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(6) The products may contain Food Additives permitted in Appendix A.

(7) The products shall conform to the microbiological requirement given in Appendix B.

## 3. Egg powder

(1) The standard specified in this clause apply to 'Egg powder' obtained under hygienic conditions from the liquid contents of sound, wholesome, hens' (Gallus gallus) eggs by suitable drying. The product so obtained shall retain the original properties of fresh eggs, like solubility of protein, aerating capacity, binding power and palatability.

(2) For the purpose of this clause,-

(a) Whole Egg powder: Product prepared from suitable drying of whole egg liquid with maximum permissible moisture content of 2.0 % and free from any extraneous material and off odour;

(b) Egg Yolk Powder: Product prepared from suitable drying of egg yolk with maximum permissible moisture content of 2.0 % and free from any extraneous material and off odour;

(c) Egg White Powder: Product prepared from suitable drying of egg white with maximum permissible moisture content of 2.0 % and free from any extraneous material and off odour.

(3) The eggs, before breaking, shall be properly washed, dried and cooled followed by breaking, inspection and collection in sterilized containers. Then liquid egg shall be homogenized, filtered, pasteurized, desugarized and repasteurized.

(4) Minimum requirements of major chemical constituents in the egg powder:-

Table				
Composition	Dried egg white	Dried egg yolk	Dried whole egg	
Min total solids (%)	91.5	95.0	95.0	
Min Total fat content (%)	0.40	56.0	39.0	
Min Total lipid content (%)	-	61.6	41.2	
Free fatty acids (Max)	-	3.5	3.5	
Min protein content (%)	-	33.1	47.1	
Cholesterol (% DM)	-	2.37	1.53	
Min. concentration of hydrogen ions	-	3.9-4.3	4.2-5.0	
(pH)				

(5) The products may contain Food Additives permitted in Appendix A.

(6) The products shall conform to the microbiological requirement given in Appendix B.

## 4. Liquid Egg Products

(1) The standard specified in this clause shall apply to egg products designated as "Liquid Egg White", "Liquid Egg Yolk" and "Liquid Whole Egg" prepared from hens' (*Gallus gallus*) eggs packaged in any suitable packaging material.

(2) For the purpose of this clause,-

(a) Liquid egg product means the whole egg, egg yolk /or egg white, which is pasteurized and preserved using approved preservatives e.g e.g beta-Hydroxy Butyric acid, Lactic acid or Succinic acid.

(b) Liquid whole egg means the homogeneous product obtained from the complete contents of broken out hens eggs.

(c) Liquid Egg yolk means the homogeneous product produced from the separation of the yolk of broken out hens-eggs.

(d) Liquid Egg albumen means the homogeneous product obtained from the separation of the white of broken out hens egg.

(3) Shell eggs shall be washed, sanitized, and candled, then broken, monitored for quality and imperfections, and yolks separated from whites. Egg whites shall then be clarified, filtered, pasteurized and or addition of chemical preservatives followed by filling into containers and maintained in the liquid condition at  $4^{\circ}$ C or below for up to 7 days.

(4) Whipping agents such as triethyl citrate, Sodium Citrate, Sodium Hexametaphosphate, Tetrasodium Pyrophosphate may also be added.

(5) The products shall conform to the following compositional requirements, namely:-

Composition	Liquid white	egg	Liquid egg yolk	Liquid whole egg
Min solids matter content (%)	10.5		40.0	22.0

Min fat content (%)	0.05	25.0	9.8
Min protein content (%)	10.0	15.0	10.5
Extraneous matter	No particles	No particles over	No particles over 1
	over 1 mm in	1 mm in 100 g	mm in 100 g and
	100 g and	and should not	should not exceed
	should not	exceed 100 mg/kg	100 mg/kg
	exceed 100		
	mg/kg		
Min. concentration of hydrogen ions	8.5	5.9	7.0
(pH)			
Max. beta-hydroxybutyric acid	10	10	10
(mg/kg)			
Max lactic acid (mg/kg)	1,000	1,000	1,000
Max succinic acid (mg/kg)	25	25	25

(6) The products may contain Food Additives permitted in Appendix A.

(7) The products shall conform to the microbiological requirement given in Appendix B.

### 5. Pickled Eggs

(1) The standard specified in this clause shall apply to "Pickled eggs" which have been packed in any suitable packing material. This category describes several treatment methods (e.g., hard boiling, pickling, maturation etc) that preserve and extend the shelf life of the hens' (*Gallus gallus*) or quail (*Coturnix coturnix japanica*) eggs.

(2) For the purpose of this clause,-

(a) Pickle solution - A combination of salt, water, oil, acids and seasonings.

(b) Pickled Eggs- It is the product prepared under hygienic conditions from hard-boiled, sound and wholesome eggs using pickle solution.

(3) Egg Pickle is prepared by hard boiled and peeled eggs by immersing in pickling solution to achieve a pH of 3.2 to 3.6 and packed in suitable container which can be stored at ambient temperature. The egg pickles shall possess a good uniform color and appearance. It shall possess a good texture and normal characteristic taste and flavor typical of the type. The product shall not be unduly hard or rubbery and shall be devoid of any objectionable taste, smell or odor.(4) Essential composition:-

(a) Hard boiled and peeled eggs.
(b) Common Salt
(c) Vinegar
(d) Edible Oil
(e) Spices and condiments

(5) The products shall conform to the following compositional requirements, namely:-

Table

S. No.	Characteristics	Requirements
1	Acidity as percent acetic acid Min	0.6 to 0.8
2	Sodium chloride percent by mass Max	3.0
3	pH of the pickling solution	3.2 to 3.6

(6) The products may contain Food Additives permitted in Appendix A.

(7) The products shall conform to the microbiological requirement given in Appendix B.

(5) in regulation 2.6, in sub-regulation 2.6.1, after clause (22) the following clauses shall be inserted, namely:-

**23.** Pasteurized Fish Sausage:- (1)The term fish sausage refers to fish mince based product comprising fish mince, seasoning and spices, food additives, which are mixed thoroughly and stuffed into suitable casing and heat processed to achieve pasteurization. Fish sausage is an emulsion product wherein, myofibrillar proteins from fish are emulsifiers. The major myofibrillar protein fraction, myosin, is responsible for emulsion and texture of heat processed sausage. Pasteurized fish sausage is either ready to eat or can be cooked for further preparation.

(2) Any fish meat of acceptable quality for human consumption or surimi (separated fish flesh water washed, partially dehydrated, mixed with food grade additives, frozen and frozen stored) may be used for fish sausage preparation.

(3) Fish mince is mixed with different food grade additives, seasoning, spices and oil using bowl chopper. The resultant paste shall be stuffed into a suitable casing material (food grade) using stuffer. The stuffed casings shall be sealed or clipped with appropriate material using ringer or clipper. The stuffed and sealed sausages shall pasteurized (F value at 85°C: 31 min; Z value: 8.9°C) and cooled immediately in chilled water at 4-5°C for 10 min. The sausages shall be air dried and stored at refrigerated temperature (<3°C).

(4) The sensory quality of the final product shall be characteristic of the fish used. It shall be free from off odor and devoid any foreign matter. The product shall not have swollen appearance nor phase separation of added oil and water.

(5) The product shall conform to the following requirements, namely:-

#### S1. No. Characteristics / Properties Requirement Fish mince proportion (min) 65% 1 2. Fat (max) 8 % 3. Binding agent (Food grade starch)-9% (max) 4. Seasoning and spices (max) 5 %

Table

(6) Microbiological specification of pasteurised fish sausage shall be as per Convenience Fishery Products, (Item No. 15 of Microbiological Requirements for fish and fishery products as given under these regulations.)

(7) The level of additives can be same as per the edible casing (e.g. sausage casing) mentioned for food category 08.4 under these regulations.

(8) The products shall comply with the packaging and labelling requirements specified in the Food Safety and Standards (Packaging and Labelling), Regulations, 2011 and shall apply to the pre-packaged products. Fish sausages shall be packed in transparent food grade containers and best before use to be provided.

**24 Pasteurised Crab Meat:-** (1)Standards specified in this clause shall apply to crab meat that has been cooked, pasteurized and chilled, intended for direct consumption with or without cooking and for further processing. (2) For the purpose of this clause,

(a) Dressing refers to the process of removing crab back shell, viscera and gills. In some cases it may also include the removal of walking legs and claws. Dressing may take place either before or after cooking

(b) Cooking refers to a heating method of crabs using potable water, clean sea water or brine for a period of time sufficient for the thermal centre to reach a temperature adequate to coagulate the protein.

(c) Hermetically sealed container refers to containers which are designed and intended to protect the contents against the entry of viable microorganisms after closing.

(d) Pasteurization means subjecting crab meat to heat at pre-determined time and temperatures, which inactivates pathogenic micro-organisms of public health concern without noticeable changes in appearance, texture and flavour of the product

(e) Picking refers to the process of removing meat from the crab shell by machine or by hand

(f) Struvite crystals refer to the transparent crystal of magnesium ammonium phosphate which forms during cooling stage following retorting and continues storage. The quantity of magnesium found in seafood and especially in the water used in processing the seafood can be sufficient to cause formation of these crystals during the normal shelf-life of the product.

(3) Pasteurized crab meat is a ready-to-eat product obtained from different parts of the crab, singly or in combination, packed in hermetically sealed containers, pasteurised and stored at chilled condition ( $<3^{\circ}$ C).

(4) Pasteurized crab meat shall be processed from live blue swimming crabs that have been subjected to the following general steps:

- a) Washing, cooking, cooling, dressing, picking and sorting using appropriate methods;
- b) Packed in cans or other appropriate containers;
- c) Pasteurized at sufficient time and temperature; and
- d) Cooled using appropriate method

(5) It is recommended that the crab meat shall be pasteurized to a minimum cumulative total lethality of  $F_{85}\circ_{C}=31$  minutes, where  $z = 9^{\circ}$  C. Equivalent processes at different temperatures can be calculated using the z values provided.

(6) Any presentation of the product shall be permitted provided that it meets all requirements of this standard; and is adequately described on the label to avoid confusing or misleading the consumer.

(7) Pasteurised crab meat shall be prepared from sound crab, which are alive immediately prior to the commencement of processing and of a quality suitable for human consumption.

(8) All other ingredients used shall be of food grade quality and conform to all applicable FSSR requirements.

(9) The final product shall conform to the following quality requirements for fill of containers or net weight and sensory properties. Rigid container, like cans or plastic cups, shall be well filled with the product, which shall occupy not less than 90% (minus any necessary headspace according to good manufacturing practices) of the water capacity of the container. The water capacity of the container is the maximum volume of distilled water at  $20^{\circ}$ C that the sealed container can hold when completely filled.

(10) The product shall have the characteristic colour, odour, taste and texture of the raw material. The final product shall conform to the microbiological requirement as per Convenience Fishery Products, (Item No. 15 of Microbiological Requirements for fish and fishery products as given in these regulations.)

(11) Only Disodium diphosphate or Sodium acid pyrophosphate permitted as per Food Safety and Standards (Food products and Food additives), Regulations 2011 at maximum level of 10mg/kg shall be used.

(12) The products shall comply with the packaging and labelling requirements specified in the Food Safety and Standards (Packaging and Labelling), Regulations, 2011 and shall apply to the pre-packaged products. The product shall be packed in appropriate hermetically sealed containers, like cans and flexible containers (e.g. plastic cups) to safeguard the hygienic and other qualities of the food.

(13) Definition of defectives.- The sample unit shall be considered as defective when it exhibits any of the properties defined below, namely:-

(a) Foreign matter.-Presence of any matter in the sample unit which has not been derived from crab meat (excluding packing material), does not pose a threat to human health, and is readily recognized without magnification or is present at a level determined by any method including magnification that indicates non-compliance with good manufacturing and sanitation practices.

(b) Odour and flavour.- Distinct objectionable odours or flavours indicative of decomposition.

(c) Texture.-Soft and mushy texture

(d) Discoloration.- Distinct discolorations characterized by the following:

 (i)Blue, brown, black discolorations exceeding 5% by weight of the drained contents; or,
 (ii) Black sulphide staining of the meat exceeding 5% by weight of the drained contents

(e) Struvite crystals.-Any struvite crystals greater than 5 mm in length

(f) Shell bits.- Shell bits with 2 mm or greater, of more than ten (10) pieces.

(14) The products shall conform to the microbiological requirement given in Appendix B.

**25.** Gelatin from Fish Processing Waste.- (1) Gelatin is derived from collagen, which is a natural structural protein, predominantly found in connective tissue of fish and terrestrial animals. Collagen is the most ubiquitous of animal proteins. The fish processing waste comprising of skin, bones, swim bladder and scales are rich in collagen content.

(2) Generally Gelatin obtained from collagen involves three types of processing steps.

In the first step, raw materials are water washed to remove obvious impurities and then treated with alkali and /or acid to weaken the collagen structure by breaking the intermolecular cross-linkages including covalent and hydrogen bonds.

In the second step, the water extraction is performed at elevated temperature (usually  $> 40^{\circ}$ C) for an appropriate period of time.

In the last step, extracted gelatin is subjected to several separation methods, including filtration, evaporation and deionization followed by drying and grinding.

(3) Essential composition

(a) The gelatin may be classified as Type A or Type B depending on the method employed for extraction. If acid is used for extraction then it is Type Agelatin. If alkali is used for extraction then it is Type B. The pH of Type A gelatin should be in the range of 3.5-5.5 and that of Type B should be in the range of 6.5-7.5

(b)The moisture content of gelatin is in the range of 8-13%. The fat content should be <0.5% and ash content should be <2%. The elemental composition of gelatin is carbon -50.5%; hydrogen -6.8%; nitrogen-17%; and oxygen -25.2%.

(c) The amino acid composition of gelatin depends on the source of collagen used. The imino acid content (proline + Hydroxyproline) of gelatin from fish processing waste is lower than that from mammalian source. Glycine accounts for 30% of total residues.

(4) The quality of gelatin is determined by bloom value (gel strength), viscosity, melting and gelling temperature.

(5) For the purpose of this clause,-

(a) Bloom strength (gel strength).- Bloom is a measure of force (weight) required to depress a prescribed area of the surface of the sample a distance of 4 mm.

Based on bloom value obtained gelatins are classified to High bloom gelatin (>300g)' medium bloom gelatin (125-200 g); low bloom gelatin (<100g). Bloom value depends on amino acid composition and components of gelatin

(b) Viscosity.- The viscosity may be measured by simple viscometers or advanced rheometers. The gelatin with viscosity value of 4-6 mPa.s is acceptable.

(c) Melting and gelling temperature.-The gelling temperature of gelatin from fish processing waste varies from 8-24°C and melting temperature varied from 10-28°C. The use of Thermal Analysis and Rheometers are commonly used to determine the gelling and melting temperature.

(6) Microbiological specification shall be as per Convenience Fishery Products, (Item No. 15 of Microbiological Requirements for fish and fishery products as given under these regulations.)

(6) in regulation 2.10,-

(a) in sub-regulations 2.10.6, the title 'BEVERAGES NON-ALCOHOLIC –CARBONATED' shall be substituted with 'BEVERAGES NON-ALCOHOLIC'.

(b) in sub-regulations 2.10.6, in clause (1), after the words "Standards prescribed for packaged drinking water" following shall be inserted, namely:-"or mineral water."

(c) in sub-regulation 2.10.6, in clause (2), after the words and figures "packaged drinking water as prescribed in regulation 2.10.8" following shall be inserted, namely:-

"or mineral water as prescribed in regulations 2.10.7"

(d)in sub regulations 2.10.6, in clause (3), after the words "packaged drinking water" following shall be inserted, namely:-

"or mineral water."

(7) in regulation 2.11, for sub-regulation 2.11.1, the following shall be substituted, namely,-

**"2.11.1 Baking powder.-** (1) 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.

(2) It shall be composed of a fine powder of sodium bicarbonate (INS 500(ii)) with suitable mixture of acidulants and an inert material of starch or other similar material, to keep the moisture below the critical conditions *i.e.* 5%.

(3) The baking powder shall contain the following ingredients:

(a) Sodium bicarbonate (INS 500(ii))

(b) It may also contain any of the following,-

(i) Edible starches - Starches obtained from cereals, roots and tubers;

(ii) Neutral materials- such as calcium lactate, anhydrous calcium sulphate, sodium sulphate, and other similar compounds such as gamma-delta lactone, acid pectin etc.

(c) Acidulants.-It shall be any one or combination of the following:

(i) Mono calcium phosphate mono hydrate INS 341 (iii)
(iii) Mono calcium phosphate anhydrous INS 341(iii)
(iii) Sodium aluminum phosphate INS 541(i)
(iv) Ammonium dihydrogen phosphate INS 342(i)
(v) Calcium carbonate INS 170(i)
(vi) Potassium bitartrate or potassium hydrogen tartrate (Cream of tartar)
(vii) Tartaric Acid INS 334
(viii) Tricalcium Phosphate 341(iii)
(ix) Glucono delta lactone
(x) Calcium silicate INS 552 (not more than 10%)

(4) It shall be in form of white free flowing powder and free of any off odour.

(5) Baking powder shall conform to the requirements specified in the table below, namely:-

	Table		
S.No.	Characteristic	Requirements	
1.	Phosphorous, mg/kg	Not more than 20,000	
2.	Aluminium, mg/kg	Not more than 400	
3.	Available/Released carbon dioxide, percent by weight of the material	Not less than 10.0	
4.	Arsenic, mg/kg	Not more than 1.1	
5.	Lead, mg/kg	Not more than 10.0	

(6) Baking powder shall be labelled for best before declaration as, "use within one year of the date of manufacture".

(8) in regulation 2.12, in sub-regulation 2.12.1, after the first proviso, the following proviso shall be inserted, namely:-

" Provided further that the use of arecanut in any product as an ingredient is not permitted without prior approval of the Food Authority".