

# STUDY ON REVIEW OF FRUIT PRODUCTS ORDER 1955

## Final Report

*Submitted to:*

**Joint Secretary,  
Ministry of Food Processing Industries,  
New Delhi**

*By:*



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## CHAPTER - 1

### INTRODUCTION

#### 1.0 BACKGROUND

In 1955, when the FPO was made, the processed foods industry was almost non-existent in India. At the time, the FPO 1955 took into account diverse make-up of food manufacturers, ranging from small roadside vendors to Small and Medium Enterprises to few large business houses. Over the years, Ministry of Food Processing Industries has been facing a real challenge in determining ways to keep this Order effective. Since the time the Indian economy opened up in early 1990's, the dynamics of Processed Food Industry in India has changed. Multinationals Food Processing Companies have entered India in a big way, several new technologies and products have been introduced, India has become a WTO signatory, and several small and medium enterprises in the sectors have gone on to become world class companies.

The popularity of such convenience foods in India has inevitably lead to their increased market infiltration in the country. New legislation therefore becomes necessary in order to monitor and regulate these products. Amendments to existing laws along with their enforcement are essential for the existing laws to be effective. Ministry of Food Processing Industries, as a nodal ministry to Government of India, has come up with periodic amendments to keep the FPO effective.

There are currently 10 pieces of legislation regulating the food industry, of which the majority is voluntary. These Food laws and their respective implementing agencies are reflected in the below mentioned Table 1-1: -

**TABLE 1-1: FOOD LAWS IN INDIA**

<b>Sl. No.</b>	<b>Food Laws</b>	<b>Implementing Agency</b>
1	Prevention of Food Adulteration Act 1954 and Rules	Department of Health, Ministry of Health and Family Welfare
2	Standards of Weights and Measures Act and Packaged Commodity Rules	Department of Consumer Affairs, Ministry of Consumer Affairs, Food and Public Distribution
3	Fruit Products Order	Ministry of Food Processing Industries
4	Milk and Milk Products Order	Department of Animal Husbandry, Ministry of Agriculture
5	Meat Products Order	Ministry of Food Processing Industries
6	Agricultural Produce (Grading & Marketing) Act	Department of Agriculture and Cooperation, Ministry of Agriculture
7	The Vegetable Oil Products (Control) Order	Department of Consumer Affairs, Ministry of Consumer Affairs, Food, and Public Distribution
8	The Edible Oils Packaging (Regulation) Order	Department of Consumer Affairs, Ministry of Consumer Affairs, Food, and Public Distribution
9	The Solvent Extracted Oil, De-oiled Meal, and Edible Flour (Control) Order	Department of Consumer Affairs, Ministry of Consumer Affairs, Food, and Public Distribution
10	Export (Quality Control & Inspection) Act	Department of Commerce, Ministry of Commerce & Industry

The fruit and vegetable processing sector in India is regulated by the Fruit Products Order, 1955 (FPO). The Fruit Products Order 1955 was established on 3<sup>rd</sup> May 1955 by the Central Government under Section 3 of the Essential Commodities Act, 1955. This order extends to the whole of India. The order is administered by the Ministry of Food Processing Industries, Government of India. The FPO contains specifications and quality control requirements on the production and marketing of processed fruits and vegetables, sweetened aerated water, vinegar, and synthetic syrups. All such processing units are required to obtain a licence under the FPO and periodic inspections are carried out. Processed fruit and vegetable products manufacture in the country or imported into the country must meet the FPO standards.



## **1.1 PURPOSE & OBJECTIVE**

### **1.1.1 Purpose**

Ministry of Food Processing Industries, Government of India (Client) have initiated the attached study. The Client has appointed M/s Suman Project Consultants (P) Ltd. having its registered office at B-168, East of Kailash, New Delhi-110065, as Consultants for conducting a comprehensive review of Fruit Products Order (FPO) 1955. The scope of study covers overall review of existing FPO 1955 and suggest amendments based upon developments and modernization in Fruit and Vegetable Processing Industry.

The Consultants understand that there were some periodic amendments made to the FPO 1955 order, but these amendments never kept pace with the development within the Fruit and Vegetable Processing Industry in India. The developments among others include processing, packaging, standards, food additives, microbiological requirements, insecticides and pesticides uses, and their influences on the food safety and health concerns of the consumers.

### **1.1.2 Objectives**

The consultants have therefore reviewed the order with following objective in mind: -

- (a) limitation and short comings of the present order, in relation / line with the codex standards, review of the other standards such as FDA, EURO, PFA, BIS and defence standards;
- (b) recent development in scientific and technology of fruits and vegetables and their processed products;
- (c) packaging technology, machinery and equipment;
- (d) production capabilities of the fruit and vegetable processing industries;  
and
- (e) to produce safe processed fruit and vegetable products for consumers.





## **1.2 THE STUDY**

The present report is a fulfillment of objectives of the study stated above, the report contains a detail technical and legal assessment of and amendments to the current FPO 1955.



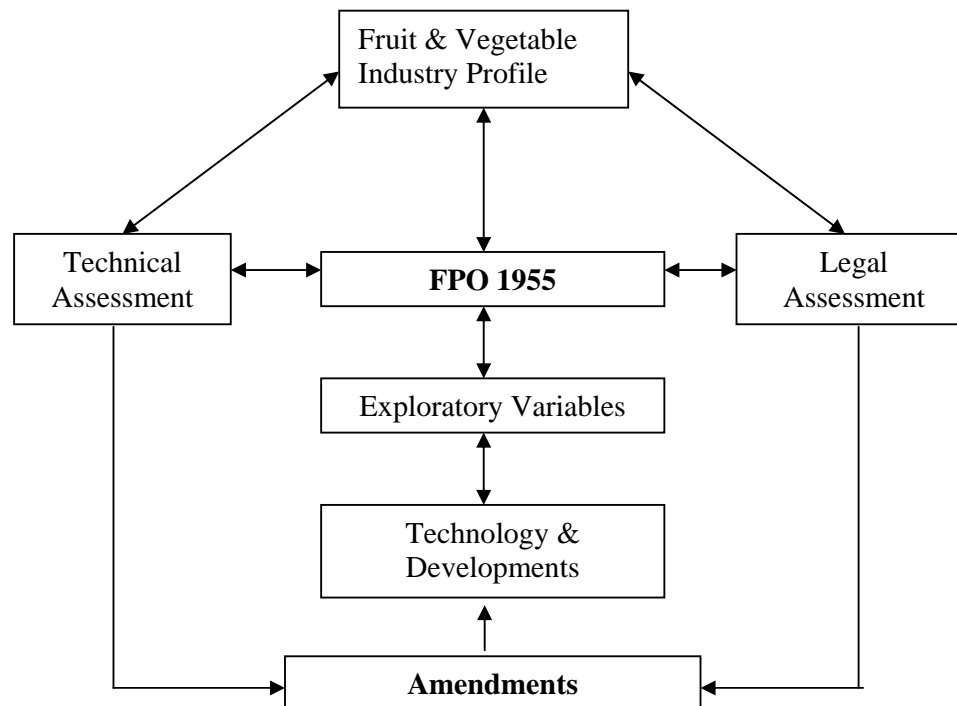
## CHAPTER - 2

### APPROACH & METHODOLOGY

#### 2.0 APPROACH

Taking into account the objective of the study as defined in Chapter 1, the consultants approached the project with a Multi-Step methodology. This approach is well reflected in Diagram 2-1 below:-

**DIG 2-1 : APPROACH ON STUDY**



In order to successfully review the FPO 1955, it was important for the Consultants to study the same from both Technical as well as Legal perspective. The key areas of technical assessment studied by the team were :-

- Definitions
- Review of existing standards
- New Standards
- Licensing procedures



- Sampling and analysis procedure
- Forms, etc

The key area's of legal assessment studied by the team were:-

- Review of 16 defined clauses of FPO 1955.
- Offences and Penalties

Variable factors, such as new technologies and International standards, influencing the above were approached and studied before drafting and submission of the report.

## 2.1 PROJECT TEAM

The study team was divided between a Technical Team and a Legal Team. The details of the members of the team are mentioned below:-

### *Technical Team :*

S.No	Name of Person	Proposed Position	Qualification	No. of Years
1	Dr. A.G. Naik Kurade	Head – Tech. Team	BSC (Agri), M.S., Ph.D	40
2	Retired FPO Director	FPO Expert	-	-
3.	Mr. Sagar Kurade	Project Mgr & Co-ordinator	B.Com, M.Com & M.B.A	12
4	Dr. D.S. Khurdiya	Head – Research	Ph.D in PHT (Hort. Crops)	35

**Legal Team:**

S.No	Name of Person	Proposed Position	Qualification	No. of Years
1	Mr. Ravi Kini	Project Coordinator	L.L.B, L.L.M (Georgia)	11
2	Mr. R.K. Gupta	Head Legal Team	L.L.B (Former Jt. Secy, Ministry of Law)	40
3.	Mr. S.P. Bhatia	Head – Legal Vetting	L.L.B	20
4	Mr. Sachin Jain	Research Co-ordination	L.L.B	2

The team functioned under the overall direction of Dr. Anand G. Naik Kurade who has had a wide experience of undertaking studied and projects within the processed food industry in India as well as abroad.

**2.2 METHODOLOGY**

The study was accomplished through a combination of:-

- Primary Research
- Secondary research
- Expert observations
- Industry feedback

During the study period, periodic presentations and meeting with Ministry of Food Processing officials were undertaken so as to incorporate the views of the client into the report.

The study could not have been accomplished without a thorough understanding of the various clauses of the current FPO 1955. Taking into account that India is a WTO signatory, the consultants kept Codex standards as a bench mark and FDA & EURO standard were also studied. However, due thought was given to the nature of current



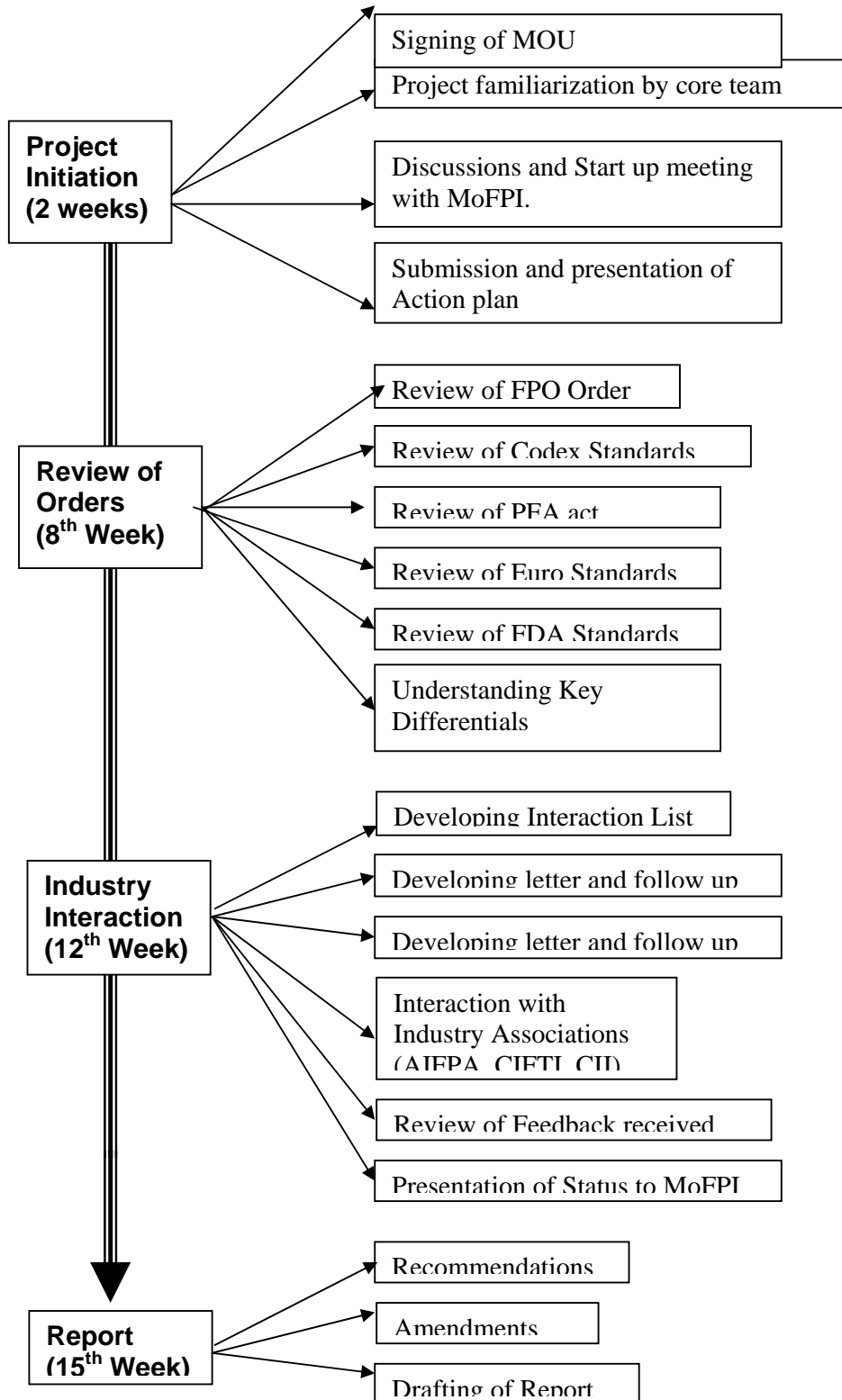
processed food industry which consists of several Micro, Small and Medium enterprises. Other Indian standards such as PFA Act and Defence standards, applicable on Fruit and Vegetable processing Industry, were also studied.

Interaction with the Fruit and Vegetable Processing Industry was undertaken by the consultants either directly or through associations such as AIFPA, CIFTI (FICCI), and CII. Former FPO directors were also contacted for the same. The feedback was reviewed by the Consultants, based upon which, minimum standards have been suggested.

The methodology adopted by the Consultants has been reflected in the Diagram 2-2 detailed below:



### DIG 2-2 : METHODOLOGY OF STUDY





## CHAPTER - 3

### REVIEW OF CLAUSES

# FRUIT PRODUCTS ORDER, 1955 (Amended, 2008)

**S. R. O. 1052**, date the 3<sup>rd</sup> May, 1955. – In exercise of the powers conferred by section 3 of the Essential Commodities Act, 1955 (10 of 1955), the Central Government hereby makes the following order, namely:-

#### 3.1 TITLE AND EXTENT

- (1) This Order may be called the Fruit Products Order, 1955.
- (2) It extends to the whole of India

#### 3.2 DEFINITIONS

In this Order, unless the context otherwise requires, -

- (a) “the Act” means the Essential Commodities Act, 1955 (10 of 1955);
- (b) **“Committee” means the Central Fruit Products Advisory Committee constituted by the [Central Government] under clause 3;**

#### **Amended to as**

“Committee” means the Fruit Products Advisory Committee under this Order.

- (c) “Form” means a Form set forth in the First Schedule;

**[(cc) “fruit nectar” means a beverage prepared from pulp or juice extracted from fully ripe and sound fruits;]**

**Amended as shown in Standard of fruit nectar at Chapter 6, Item No. 6C3**



- (d) **“fruit product” means any of the following articles, namely:-**
- (i) **[non-fruit] beverages, syrups and sherbets;**
  - (ii) **vinegar, whether brewed or [non-fruit];**
  - (iii) **pickles;**
  - (iv) **dehydrated fruits and vegetables;**
  - (v) **squashes, crushes, cordials, barley water, barreled juice and ready-to-serve beverages, [fruit nectars] or any other beverages containing fruit juice or fruit pulp;**
  - (vi) **jams, jellies and marmalades;**
  - (vii) **tomato products, ketchup and sauces;**
  - (viii) **preserves, candied and crystallize fruits and peels;**
  - (ix) **chutneys;**
  - (x) **canned and bottled fruits, juices and pulps;**
  - (xi) **canned and bottled vegetables;**
  - (xii) **frozen fruits and vegetables;**
  - (xiii) **sweetened aerated waters and/or without fruit juice or fruit pulp];**
  
  - (xiv) **[All unspecified fruit and vegetable products which are considered microbiologically safe and contains only permitted additives within permissible limits.:]**

**Amended as follows**

(d) **“Fruit and Vegetable Product”** means any of the following articles, namely:

- (i) Canned / Bottle Fruits
- (ii) Canned Fruit Cocktail
- (iii) Canned Tropical Fruit Cocktail or Salad
- (iv) Fruit Bar / Toffee
- (v) Dried and Dehydrated Fruits
- (vi) Quick Frozen Fruits (IQF)





- (vii) Fruit Concentrate
- (viii) Tamarind pulp / Puree and Concentrate
- (ix) Canned / Bottle Vegetables
- (x) Canned / Bottle Curried Vegetables / Ready to Eat
- (xi) Canned / Bottle Vegetable Soups / Ready to Eat
- (xii) Dried and Dehydrated Vegetables
- (xiii) Quick Frozen Vegetables (IQF)
- (xiv) Frozen Curried Vegetables / Ready-To-Eat
- (xv) Vegetable Concentrate
- (xvi) Tomato Puree and Paste
- (xvii) Fruit Juice
- (xviii) Fruit Pulp / Puree
- (xix) Fruit Nectars
- (xx) Fruit Beverages
  - (1) Fruit Syrup / Sherbet, Fruit Crush, Fruit Squash
  - (2) Fruit Cordial
  - (3) Fruit Drinks / Ready to Serve Beverages
  - (4) Barley Water (Lemon, Orange, Grape Fruit etc.)
  - (5) Ginger Cocktail (Ginger Beer or Ginger ale)
  - (6) Carbonated Fruit Drink or Fruit Beverages
- (xxi) Vegetable Juices /Pulp/Puree
- (xxii) Fruit Based Beverage Mix / Powdered Fruit Based Beverages
- (xxiii) Mixed Fruit and Vegetable Juices
- (xxiv) Non-fruit Beverages
- (xxv) Pickled Fruits and Vegetables
- (xxvi) Fruit and Vegetable Chutney
- (xxvii) Tomato Ketchup and Tomato Sauce
- (xxviii) Fruit and Vegetable Sauce
- (xxix) Soyabean Sauce
- (xxx) Fruit Jam and Fruit Cheese
- (xxxi) Fruit Jellies



- (xxxii) Citrus Marmalade
- (xxxiii) Fruit and Vegetable Preserves (Murabba)
- (xxxiv) Candied and Crystallized or Glazed Fruit and Peel
- (xxxv) Soup Powders
- (xxxvi) Fruit and Vegetable Cereal Flakes
- (xxxvii) Brewed Vinegar
- (xxxviii) Non-Fruit Vinegar
- (xxxix) Quick Frozen French Fried Potatoes
- (xl) Table Olives
- (xli) Aseptically Processed and Packaged Fruits and Vegetables
- (xlii) Irradiated Processed Fruits and Vegetables
- (xliii) Retort Pouches Products
- (xliv) Fruit Shakes
- (xlv) Fruit Lassi
- (xlvi) Cider
- (xlvii) Wine
- (xlviii) Freeze Dried Fruits and Vegetables
- (xlix) Miscellaneous Fruit and Vegetable Products

**[(dd) “label” means a display of written, printed, perforated, stenciled, embossed or stamped matter on the container of any fruit product;]**

**(e) “licensee” means a manufacturer to whom a licence is granted under this Order;**

**(f) “licence number” means the number of a licence granted to a manufacturer under this Order;**

**[(g) “Licensing Officer” means [this Director (Fruit and Vegetables Preservation), Food and Nutrition Board, Department of Food, Ministry of Agriculture], Government of India and includes and other officer empowered in this behalf by him with the approval of the Central Government;]**

**[(h) “Manufacturer” means a person engaged in the business of manufacturing fruit products for sale and includes any person who**



- obtains fruit products from another person and [packs or labels them for sale;]
- (i) “Schedule” means a Schedule annexed to this Order;
- [(j) “Sherbet” means any non-alcoholic sweetened beverage or syrup containing not less than 10 per cent fruit juice or flavoured with non-fruit flavours such as rose, khus, kewra, etc];
- [(k) “Non-fruit] beverage” means [any sweetened non-alcoholic or non-aerated beverage] containing no fruit juice or having juice content less than 10 per cent, without artificial flavour and colour.
- [(l) “[Non-fruit] syrup” means any non-alcoholic syrup containing less than 25 percent fruit juice and having artificial flavour and colour resembling fruits; and]

Amended as follows ( definitions of licence and licence number kept the same but others have been changed and some more relevant definitions required due to more number of products and other standards like standard on hygiene, labeling, etc have been proposed): (“Sherbet”, “Non-fruit] beverage” and “[Non-fruit] syrup” their counter part are given in the respective standard 6C4 and 6D)

**(e) Other Definitions**

- (i) **Adulterant:** - Means any material, which is or could be employed for making the food unsafe or sub-standard or mis-branded or containing extraneous matter.
- (ii) **Advertisement:** - Means any audio or visual publicity, representation or pronouncement made by means of any light, sound, smoke, gas, print, electronic media, internet or website and includes through any notice, circular, label, wrapper, invoice or other documents.
- (iii) **Aseptic:** - Means commercially sterile.



- (iv) **Aseptic Processing and Packaging:** - Means the processing and packaging of a commercially sterile Product into sterilized containers followed by hermetic sealing with a sterilized closure in a manner which prevents viable microbiological recontamination of the sterile Product.
- (v) **Best Before:** - Means the date which signifies the end of the period under any stated storage conditions during which the fruit product will remain fully marketable and will retain any specific qualities for which tacit or express claims have been made . However, beyond the date the fruit product may still be perfectly satisfactory.
- (vi) **Brewed Vinegar:** - means a Product derived from alcoholic and acetous fermentation of any suitable medium, such as fruits, mart, molasses and sugarcane juice.
- (vii) **Consumer:** - Means persons and families purchasing and receiving processed Fruit and Vegetable in order to meet their personal needs.
- (viii) **Contaminant:** - Any biological or chemical agent, foreign matter, or other substances not intentionally added to fruit and vegetable product which may compromise its safety or suitability.
- (ix) **Canned Fruit and Vegetables:** - Means commercially sterile fruit and vegetable Product in hermetically sealed containers.
- (x) **Cleaning:** - Means the removal of food residues, dirt, grease or their objectionable material.
- (xi) **Code Lot:** - Means all Products produced during a period of time identified by a specific container code mark.



- (xii) **Commercial Sterility:** - Means the absence of microorganisms capable of growing in the Product at normal non-refrigerated conditions at which the Product is likely to be held during manufacture, distribution and storage.
- (xiii) **Date of Manufacture:** - Means the date on which the fruit and vegetable becomes the Product as described.
- (xiv) **Date of Packaging:** - Means the date on which the fruit product is placed in the immediate container in which it will be ultimately sold.
- (xv) **Extraneous matter:** - Means any matter contained in an article of fruits and vegetables which may be carried from the raw materials, packaging materials or process systems used for its manufacture or which is added to it, but such matter does not render such article of food unsafe.
- (xvi) **Equilibrium pH:** - Means the pH of a finished Product once all components have attained pH uniformity.
- (xvii) **Food Additive:** - Means any substance not normally consumed as a food (Processed Fruits and Vegetables) by itself or used as a typical ingredient of the processed fruits and vegetables, whether or not it has nutritive value, the intentional addition of which to food for a technological (including organoleptic) purpose in the manufacture, processing, preparation, treatment, packing, packaging, transport or holding of such food results, or may be reasonably expected to result (directly or indirectly), in it or its by Products becoming a component of or otherwise affecting the characteristics of such food but does not include “Contaminants” or substances added to food for maintaining or improving nutritional qualities.



(xviii) **Fruit Product Hygiene:** - means all the conditions and measures that are necessary to ensure the safety and suitability of fruit product at all stages of its chain.

(xix) **Fruit Product Safety:** - means an assurance that fruit product will not cause harm to the consumer when it is prepared and / or eaten according to its intended use.

(xx) **Good Manufacturing Practices for use of Food Additives:** - Means the food additives used under the following conditions, namely: -

The quantity of the additive added to fruit and vegetable products) shall be limited to the lowest possible level necessary to accomplish its desired effect. The quantity of the additive becomes a component of food as a result of its use in the manufacturing, processing or packaging of a food and which is not intended to accomplish any physical, or other technical effect in the food itself, is reduced to the extent reasonably possible, and the additive is prepared and handled in the same way as a food ingredient.

(xxi) **Hazard:** - means a biological, chemical or physical agent in, or condition of, processed fruit products with the potential to cause an adverse health effect.

(xxii) **HACCP:** - means a system, which identifies, evaluates, and controls hazards, which are significant for fruit products.

(xxiii) **Hermetically Sealed Containers:** - means Containers, which are designed and intended to protect the contents against the entry of viable microorganisms after closing.



- (xxiv) **Ingredient:** - Means any substances, including a food additive used in the manufacture or preparation of fruit products and present in the final Product, possibly in a modified form.
- (xxv) **Incubation Tests:** - Means test in which the processed product is kept at a specific temperature for a specified period of time in order to determine if outgrowth of microorganisms occurs under these conditions.
- (xxv) **Label:** - Means any tag, brand, mark, pictorial or other descriptive matter, written, printed, stenciled, marked, embossed, graphic, perforated, stamped or impressed on or attached to container cover, lid or crown of any fruit product package and includes a Product insert.
- (xxvi) **Licensee:** - Means a manufacturer to whom a licence is granted under this order.
- (xxvii) **Licence Number:** - Means the number of a licence granted to a manufacturer under this order.
- (xxviii) **Licensing Officer:** - Means the Director, Fruit Preservation Officer, Ministry of Food Processing Industries, Government of India and includes any officer empowered in this behalf by him with approval of the Central Government.
- (xxix) **Lot:** - Means a definitive quantity of a commodity produced essentially under the same conditions.
- (xxx) **Manufacturer:** - Means a person engaged in the business of manufacturing fruit and vegetable Products for sale and includes any person who obtains fruit or vegetable Products from another person and packs or labels them for sale.



- (xxxix) **Package:** - Means a box, bottle, casket, tin, barrel, case, receptacle, sack, bag, wrapper or other thing in which an article of fruit and vegetable is placed or packed.
- (xxxii) **Prepackaged:** - Means packaged or made up in advance in a container, ready for offer to the consumer, or for catering purposes.
- (xxxiii) **Premises:** - Includes any shop, stall, or place where any article of fruits and vegetables is sold, manufactured or stored for sale.
- (xxxiv) **Primary Fruits and Vegetables:** - Means any article of fruit and vegetable, being produce of agriculture or horticulture in its natural form.
- (xxxv) **Processing Aid:** - Means a substance or material, not including apparatus or utensils, and not consumed as a fruit product ingredient by itself, intentionally used in the processing of raw materials, fruit product or its ingredients, to fulfill a certain technological purpose during treatment or processing and which may result in the non-intentional but unavoidable presence of residues or derivatives in the final Product.
- (xxxvi) **Primary Production:** - Those steps in the Fruits and Vegetables chain up to harvesting.
- (xxxvii) **Rigid Container:** - Means that the shape or contours of the filled and sealed container are neither affected by the enclosed Product nor deformed by an external mechanical pressure of up to 0.7 kg /cm<sup>2</sup> (10 psi), i.e., normal finger pressure.





- (xxxviii) **Standard:** - An article of fruit and vegetable shall be deemed to be standard if it does meet the specified standards mentioned herein under and render the article of fruit and vegetable safe.
- (xxxix) **Sub-Standard:** - An article of fruit and vegetable shall be deemed to be sub-standard if it does not meet the specified standards but not so as to render the article of fruit and vegetable unsafe.
- (xl) **Semi-Rigid Container:** - Means that the shape or contours of the filled, sealed container are not affected by the enclosed Product under normal atmospheric temperature and pressure but can be deformed by an external mechanical pressure of less than  $0.7 \text{ kg/cm}^2$  (10 psi), i.e., normal finger pressure.
- (xli) **“Schedule”** means any a schedule annexed to this Order;
- (xlii) **Scheduled Process:** - Means all the conditions needed to achieve and maintain the commercial sterility of equipment, containers and fruit and vegetable products.
- (xliii) **Sterilant:** - Means any physical and / or chemical treatment used to achieve commercial sterility.
- (xliv) **Sterile:** - Means commercially sterile.
- (xlv) **Sterility:** - Means commercial sterility.
- (xlvi) **Sterilization Temperature:** - Means the temperature of the thermal process as specified in the scheduled process.
- (xlvii) **Sterilization Time:** - Means the time specified in the scheduled process.



(xlviii) **Synthetic (Non - Fruit) Vinegar:** - A substitute for vinegar, prepared by dilution of acetic acid, which is not the Product of alcoholic and acetous fermentation.

**[(m) “Term” means a calendar year or part thereof ending on the 31<sup>st</sup> day of December of that year).**

**Amended as follows:**

(xlix) **Term:** - Means a financial year or part thereof ending on the 31<sup>st</sup> day of March of that year.

(1) **Unsafe Fruit Product:** - Means an article of fruit and vegetable whose nature, substance or quality is so affected as to render it injurious to health.

**3. (1) As soon as may be after the commencement of this order and thereafter at the interval of every two years, the Central Government shall, by order published in the Official Gazette, constitute a committee, to be called the Central Fruit Products Advisory Committee, [which shall consist of the Joint Secretary to the Government of India in the Department of Food, who shall be the Chairman of the Committee, [The Executive Director, Food and Nutrition Board, Department of Food] who shall be the Vice Chairman of the Committee] and the following members, namely :--**

**Members**

- a. **One representative of the [non-fruit] syrup, vinegar, murabba, chutney and pickle manufacturers to be nominated by the Licensing Officer;**
- b. **One representative of the squash and ready-to-serve beverage manufacturers, to be nominated by the Licensing Officer;**



- c. Two representatives of the manufacturers of canned fruits, canned vegetables, jams, jellies, marmalades and tomato products, to be nominated by the Licensing Officer;
  
- [cc. One representative of the small scale manufacturers of Murabba, Chutney and pickles to be nominated by the Licensing Officer;
  
- ccc. One representative of the small scale manufacturers of canned fruits, canned vegetables, jams, jellies and marmalades, to be nominated by the Licensing Officer;]
  
- d. Two persons possessing, in the opinion of the Licensing Officer suitable technical qualifications with regard to the manufacture of fruit products, to be nominated by the Licensing Officer;
  
- e. One representative of the exporters of fruit and vegetable products, to be nominated by the Licensing Officer;
  
- f. The Director, Central Food Technological Research Institute or his nominee;
  
- g. The Agricultural Commissioner to the Government of India or his nominee;
  
- h. The Technical Adviser to the Ministry of Food and Agriculture or his nominee;
  
- i. (1) Two representatives of fruit and vegetable growers in India to be nominated by the Licensing Officer;  
  
(2) One representative of the Ministry of Health and Family Planning (Department of Health);



- (3) Two representatives of the manufacturers of sweetened aerated waters with or without fruit juice or fruit pulp;
- (4) One representative of the Indian Standards Institution;]
- (5) One representative of the Consumer Organizations.]

Member Secretary

(j) The Director (Fruit and Vegetable Preservation) in the Department of Food.

(2) A member of the Committee shall hold office for the period for which the committee has been constituted:

Provided that a member may resign his office by notice in writing given to the Licensing Officer.

(3) If a vacancy occurs by death, resignation, efflux of time or otherwise in the office of any nominated member of the Committee, the vacancy so caused shall be filled by nomination under sub-clause (1), and any person appointed to fill a casual vacancy shall hold office so long only as the member in whose place he is nominated, would have held office.

(4) The quoram of the Committee shall be five but subject thereto, the Committee may act notwithstanding any vacancy in its number.

(5) The Committee may regulate its proceedings in such manner as it thinks fit but on any matter on which the votes of the Committee are equally divided, the Chairman or the person presiding at the Committee shall have a second or casting vote.



**(6) The function of the Committee shall be to advise the Department of Food in the Government of India on any matter pertaining to Fruit Preservation Industry.**

**(7) The Central Government may, at any time, if it so deems expedient in the public interest, by order, dissolve the Committee and thereupon the Committee shall stand dissolved and all persons nominated to the committee shall cease to be members thereof with effect from the date of the order:**

**Provided that the Central Government shall take steps to reconstitute the committee as soon as possible in the manner provided in sub-clause(1).**

**Amended to as follows:**

### **3.3 FRUIT PRODUCTS ADVISORY COMMITTEE**

(1) The Central Government shall, by order published in the Official Gazette, constitute a committee, to be called the Fruit Products Order Advisory Committee, which shall consist of the Director of FPO, who shall be the Chairperson of the Committee, and the following members, namely:

- (a) one Member from the FPO, Ministry of Food Processing Industries, who would also act as the Member Secretary;
- (b) three members which shall be from Fruit and Vegetable Processing Industry;
- (c) one member from Consumer Association; and
- (d) four members as Technical Experts from various technical and scientific fields.

(1A) The chairperson shall have the right to call 3 invitees for the meeting, as need be, who shall advise the Committee Members on an issue they are called upon.



**(1B)** The committee shall meet at least thrice in a year for any changes or amendments, if any and report to the Food Authority.

**(1C)** The term of the committee shall be for a period of 3 (three) years.

**(2)** A member of the Committee shall hold office for the period for which the Committee has been constituted:

Provided that a member shall be eligible for re-nomination for a second term also;

Provided Further that a member may resign his office by notice in writing given to the chairperson.

**(3)** If a vacancy occurs by death, resignation, efflux of time or otherwise in the office of any nominated member of the Committee, the vacancy so caused shall be filled by nomination under sub-clause (1), and any person appointed to fill a casual vacancy shall hold office so long only as the member in whose place he is nominated, would have held office.

**(4)** The quorum of the Committee shall be five members, which shall be presided over by the Chairperson. In case of his absence, any of the members forming the quorum shall decide among themselves as to who shall preside over the meeting, but subject thereto, the Committee may act notwithstanding any vacancy in its number.

**(5)** The Committee may regulate its proceedings in such manner, as it thinks fit but on any matter on which the votes of the Committee shall have a second or casting vote.

**(6)** The function of the Committee shall be to advise the Food Authority on any matter pertaining to Fruit Products Order.



- (7) The Central Government may, at any time, if it so deems expedient in the public interest, by order, dissolve the Committee and thereupon the Committee shall stand dissolved and all persons nominated to the Committee shall cease to be members thereof with effect from the date of the order:

PROVIDED that the Central Government shall take steps to reconstitute the Committee as soon as possible in the manner provided under sub-clause (1).

**4. [(1) No person shall carry on the business of a manufacturer except under and in accordance with the terms of an effective licence granted to him under this Order in Form 'B' (nor shall he make use of the number of licence issued under this Order on labels of non-fruit products.)]**

**(2) A licence shall, unless sooner cancelled, be in force for such period as may be specified therein.**

**(3) An application for renewal of a licence shall be submitted to the Licensing Officer at least one month before the expiry of the period of validity of the licence.**

**(3A) A manufacturer may apply for renewal of the licence for a period of three, five or ten years, as the case may be after paying the lump sum fee for the period so applied.**

**(4) If an application for the renewal of licence is made one month before the expiry of the period of validity of the licence, the licence shall continue to be in force until orders are passed on the application.**

**Amended as follows:**

### **3.4 LICENCE**

- (1) No person shall carry on the business of a manufacturer except under and in accordance with the terms of an effective licence granted to him under this Order in Form 'B' (nor shall he make use of the number of licence issued



under this Order on labels of non-fruit products.) Form 'B1' shall be maintained by the manufacturer / Re-Packer / Re-Labeler for inspection purpose. The licence shall be issued in accordance with the Financial Year (April – March).

- (2) A single licence may be issued by the Licensing Officer for one or more articles of fruit and vegetable and also for different establishments or premises in the same area/ location.
- (3) A licence shall, unless sooner cancelled, be in force for such period as may be specified therein.
- (4) An application for renewal of a licence shall be submitted to the Licensing Officer at least one month before the expiry of the period of validity of the licence. Provided however
  - a. Application received less than a month before the expiry of the period of validity of the license, under such circumstances, the licence may be renewed subject to licence in addition to licence fee shall also required to pay fine which shall be equal to one fourth of the annual fee.
  - b. Application for renewal of license received after the expiry of the period of validity of license, can only be renewed subject to payment of fine equivalent to annual fee alongwith the fee payable for such licence accompanied with affidavit stating proper reasons for late submissions.
- (5) A manufacturer may apply for renewal of the licence for a period of one, three or five years as the case may be, after paying the lump sum fee for the period so applied.

**Provided that** the Licence issued shall terminate at the end of financial year of that year till which it is valid;





**Provided further that the** licensee shall not be entitled for the renewal of licence upon default on part of licensee to get the licence renewed for three consecutive times;

**Provided Further that** Production data for the financial year which has expired shall be submitted to the Licensing Officer in the format provided under form C latest by April end of the subsequent financial year. Upon the failure of the licensee to submit the Form C within the stipulated period of time, the licensee shall be required to pay a monthly fine of Rs.2500/-, which shall be during the period of such delay.

- (6) If an application for the renewal of licence is made, the licence shall continue to be in force until orders are passed on the application for such renewal of licence.

**5. (1) Every application for the grant of licence under clause 4 shall be made in duplicate to the Licensing Officer in Form 'A' and shall be accompanied by a fee of such amount as is appropriate to each of the class of licence for which such application is made under the provision of sub-clause (2).**

**(2) The following fees being appropriate fees shall be payable for one term or part thereof under sub-clause (1), namely:--**

<b>(a)</b>	<b>Home scale – category (A)</b> .....	<b>Rs. 20</b>
	<b>Home scale – category (b)</b> .....	<b>Rs. 100</b>
<b>(b)</b>	<b>Cottage scale</b> .....	<b>Rs. 250</b>
<b>(c)</b>	<b>(i) Small scale-category (A)</b> .....	<b>Rs. 400</b>
	<b>(ii) Small sale-category (B)</b> .....	<b>Rs. 600</b>
<b>(d)</b>	<b>Large scale</b> .....	<b>Rs. 1,500</b>
<b>(e)</b>	<b>Re-labeller</b> .....	<b>Rs. 500</b>

**(2A). A manufacturer using different premises for the manufacture of fruit and vegetable products shall take out a separate licence number prefixed with the abbreviation of the name of the place of location of the head office of the business and**



**suffixed with a serial number shall be issued to him in respect of every such premises and this shall be exhibited on the label affixed to the container of such products.**

**(3) Any fee paid by any applicant for a licence under this clause shall not be refundable.**

**[Provided that where the licence is refused under sub-clause (4) or where the licence fee paid is in excess of the amount payable for the licence granted, the licence fees or as the case may be, the excess amount paid shall be refunded to the applicant.]**

**Amended as follows:**

### **3.5 APPLICATION AND FEES FOR LICENCE**

(1) Every application for the grant of licence under clause 4 shall be made in duplicate to the Licensing Officer in Form 'A' and shall be accompanied by a fee of such amount as is appropriate to each of the class of licence for which such application is made under the provision of sub-clause (2).

(2) The following fees being appropriate annual fees shall be payable for one whole term or part thereof under sub-clause (1), namely: -

- (a) Home scale-----Rs. 1000.00/-
- (b) Cottage scale-----Rs. 2500.00/-
- (c) Small scale-----Rs. 5000.00/-
- (d) Medium scale-----Rs. 7500.00/-
- (e) Large scale-----Rs.10, 000.00/-
- (f) Re-Packer

(Re-Packer may be of any scale such as 'Home Scale Re-packer', 'Cottage Scale Re-Packer', 'Small Scale Re-Packer', 'Medium Scale Re-Packer', 'Large Scale Re-Packer' and fees may be charged accordingly.

- (g) Re-Labeler-----Rs. 5000.00/-



(Re-Labeler licence may be issued to those firms who are involved in the sale of the products both in India and abroad. Re-labeler shall provide the name and address of the registered office as well as its storage places to the FPO.

- (3) A manufacturer using different premises / location for the manufacture of fruit and vegetable Products shall apply for separate licence in respect of each of such Premises / location. A common licence number prefixed with the abbreviation of the name of the place of location of the head office of the business and suffixed with a serial number shall be issued to him in respect of every such premises and this shall be exhibited on the label affixed to the container of such Products.
- (4) Any fee paid by any applicant for a licence under this clause shall not be refundable.

**Provided that** where the licence is refused under sub-clause (5) or where the licence fee paid is in excess of the amount payable for the licence granted, the licence fees or the excess amount paid, as the case may be, shall be refunded to the applicant.

- (5) The Licensing Officer may by order, for reasons to be recorded in writing, refuse to grant a licence to any applicant and shall furnish him as soon as possible with copy of the order so passed.

**6. (1) The licensing officer may, after giving the manufacture an opportunity to show cause and after giving him three months' notice, cancel any licence granted to him under this Order of any breach of the terms of the licence or for any contravention of the provisions of this Order or for any failure to comply with any order, direction or requisition made under this Order.**

**(2) The manufacturer may appeal to the Central Government against any order passed by the licensing officer under sub-clause (1) canceling the licence**



**within a period of thirty days after the receipt of the order by such manufacturer and the decision of the Central Government shall be final.**

**Amended as follows:**

### **3.6 CANCELLATION OF LICENCE**

(1) The licensing officer may, after giving the manufacturer an opportunity to show cause and after giving him three months' notice, cancel any licence granted to him under this Order for any breach of the terms of any failure to comply with any order, direction or requisition made under this Order.

(2) The manufacturer may appeal to the Ministry against any order passed by the licensing officer under sub-clause (1) canceling the licence within a period of thirty days after the receipt of the order by such manufacturer and the decision of the Central Government shall be final.

**7. Every manufacturer shall manufacture fruit products in conformity with the sanitary requirements and the appropriate standard of quality and composition specified in the Second Schedule to this Order. [Every other fruit and vegetable product not so specified shall be manufactured in accordance with the standard of quality and composition laid down in this behalf by the Licensing Officer.]**

**Amended as follows:**

### **3.7 EVERY MANUFACTURER TO MANUFACTURE IN CONFORMITY WITH SANITARY REQUIREMENTS**

Every manufacturer shall manufacture fruit and vegetable Products in conformity with the hygienic requirements and the appropriate standard of quality and composition specified in the Second Schedule to this Order. Every other fruit and vegetable Product not so specified shall be manufactured in accordance with the



standard of quality and composition laid down and approved by the Fruit Products Advisory Committee.

**8. (1) Every manufacturer shall, in regard to the packing, marking and labeling of containers of fruit products, comply with the following requirements, that is to say-**

**(a) Every container in which any fruit product is packed shall bear a label containing the details as specified in item, PART XX of the Second Schedule.**

**(b) When a bottle is used in packing any fruit products, it shall be so sealed that it cannot be opened without destroying the licence number and the special identification mark of the manufacturer to be displayed on the top or neck of the bottle. The licence number of the manufacturer shall also be exhibited prominently on the side label on such bottle;**

**(c) When a tin, barrel or other container is used in packing any fruit product, the licence number of the manufacturer shall either be exhibited prominently on the side label of such tin or be embossed prominently thereon.**

**(d) each container in which any fruit product is packed shall specify a code number indicating the lot or the of manufacture of such fruit product. [The code numerals or alphabets or in both. Before the issue of a licence each code number to be used by a manufacturer shall be registered with the Licensing Officer and no change shall be made therein except with the previous sanction of the Licensing Officer;]**

**(e) the labels should not contain any statement, claim, design or device which is false or misleading in any particular concerning the fruit products contained in the package or concerning the quantity or the nutritive value or in relation to the place of origin of the said fruit products;**



**(f) the fruit products packed by a manufacturer shall be either those manufactured by him or those obtained from another licensed manufacturer.]**

**(2) Without prejudice to the generality of the provision contained in sub-clause (1), the Licensing Officer may, by order published in the official Gazette, specify the requirements in regard to the packing, marking and labeling of containers of fruit products of any specified type or description, whether such fruit products are manufactured in India or not and every manufacturer or any person for the time being acting on his behalf shall be bound to comply with the provision of such order.**

**Amended as follows:**

### **3.8 REQUIREMENTS FOR PACKING, MARKING AND LABELLING OF CONTAINERS OF FRUIT AND VEGETABLE PRODUCTS**

**(1)** Every manufacturer shall, in regard to the packing, marking and labeling of containers of fruit and vegetable Products, comply with the following requirements, that is to say -

**(a)** Every container in which any fruit or vegetable Product is packed shall bear a label containing the details as specified in the Standards laid down for the Labeling of Prepackaged Processed Fruits and Vegetables (5.1 PART – I A).

**(b)** When a bottle is used in packing any fruit or vegetable Products, it shall be so sealed that it cannot be opened without destroying the licence number and the special identification mark of the manufacturer to be displayed on the top or neck of the bottle. The licence number of the manufacturer shall also be exhibited prominently on the side label on such bottle.

**(c)** When a tin, barrel or other container is used in packing any fruit Product, the licence number of the manufacturer shall either be  
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exhibited prominently on the side label of such tin or be embossed prominently thereon.

- (d) Each container in which any fruit Product is packed shall specify a code number indicating the lot or the data of manufacture of such fruit Product. The code number shall be legible and shall be given in English or Hindi numerals or alphabets or in both. Before the issue of a licence each code number to be used by a manufacturer shall be registered with the licensing Officer and no change shall be made therein except with the previous sanction of the Licensing Officer.
  - (e) The labels should not contain any statement, claim, design or device which is false or misleading in any particular concerning the fruit or vegetable Products contained in the package or concerning the quantity or the nutritive value or in relation to the place of origin of the said fruit or vegetable Products;
  - (f) The fruit or vegetable Products packed by a manufacturer shall be either those manufactured by him or those obtained from another licensed manufacturer.
- (2) Without prejudice to the generality of the provision contained in sub-clause (1), the Licensing Officer may, by order published in the official Gazette, specify the requirements in regard to the packing, marking and labeling of containers of fruit or vegetable Products of any specified type or description, whether such fruit or vegetable Products are manufactured in India or not and every manufacturer or any person for the time being acting on his behalf shall be bound to comply with the provision of such order.

**9. [Every manufacturer shall submit by the 31<sup>st</sup> of January of each year to the Licensing Officer a return in duplicate in Form 'C' in respect of each class of fruit products manufactured, sold and exported by him during the previous term.]**



**9A. Every manufacturer, who is not paying any excise duty, shall maintain up-to-date accounts in Form 'D' and Form 'E' in respect of receipt of different raw materials, their consumption in the manufacture of fruit and vegetable products and disposal of the processed foods.**

**Amended as follows:**

**3.9 FILING AND MAINTAINING THE FORM 'C', AND FORM 'D' AND 'E'**

**(i) FILING OF RETURN OF FRUIT PRODUCTS MANUFACTURED, SOLD AND EXPORTED IN FORM 'C'**

Every manufacturer Re-Packer and Re-Labeler shall submit by the 30<sup>th</sup> April of each year to the Licensing Officer a return in duplicate in Form 'C' in respect of each class of fruit or vegetable Products manufactured, sold and exported by him during the previous financial year.

**(ii) MAINTAIN UP-TO-DATE ACCOUNTS IN FORM 'D' AND 'E'**

Every manufacturer, Re-Packer and Re-Labeler who is not paying any excise duty, shall maintain up-to-date accounts in Form 'D' and Form 'E' in respect of receipt of different raw materials, their consumption in the manufacture of fruit and vegetable Products and disposal of the processed foods.

**10. No person shall sell, or expose for sale, or dispatch or deliver to any agent or broker for the purpose of sale, any fruit products, which do not conform to the standards of quality and composition specified in the Second Schedule or which are not packed, marked and labeled in the manner laid down in this order.**





**Provided that the provision of clause 8 with regard to packing, marking and labeling shall not apply to products imported from outside the country.**

**Amended as follows:**

### **3.10 CONDITIONS FOR SALE**

#### **(1) General**

No person shall sell, or expose for sale, or dispatch or deliver to any agent or broker for the purpose of sale, any fruit or vegetable Products which do not conform to the standards of quality and composition specified in the Second Schedule or which are not packed, marked and labelled in the manner laid down in this order.

#### **(2) All imports of articles of Fruit and Vegetable to be subject to this Order.**

- (a) No person shall import into India
  - (i) any unsafe or misbranded or substandard fruit and vegetable products or their containing' extraneous matter;
  - (ii) any article of fruit the import of which a licence is required under any Act or rules or regulation, except in accordance with the condition of the licence; and
  - (iii) any article of fruit and vegetable products in contravention of any other provision of this Order or of any rule or regulation made thereunder or any other Act.
- (b) The Central Government shall, while prohibiting, restricting or otherwise regulating import of articles of fruit and vegetable products under the Foreign Trade (Development and Regulation) Act, 1992 (22 of 1992), follow the standards' laid down by this Order and regulations made thereunder.



**11. (1) Any beverage which, does not contain at least [twenty-five] per centum of fruit juice in its composition shall not be described as a fruit syrup, fruit juice, squashes or cordial or crush and shall be described as a [non-fruit] syrup.**

**(2) [Non-fruit] vinegars, beverages, syrups, sherbets and other products associated with fruits and vegetables shall be clearly and conspicuously marked on the label as “[NON-FRUIT]”. [The word [NON-FRUIT]” wherever used, shall be as bold and in the same size and colour of the letters as are used for the name of the product and shall immediately precede such name.] No container containing any such product shall have anything printed or labeled on it, which may lead the consumer into believing that it is a fruit product. Neither shall the word ‘Fruit’ be used in describing such a product nor shall it be sold under the cover of a label, which carries the picture of any fruit.**

**(3) Sweetened aerated waters containing no fruit juice or fruit pulp or containing less than 10 per cent of fruit juice or fruit pulp shall have a clear and conspicuous marking on the body of the container to the effect [contains no fruit]. In case artificial flavour has also been used, the words ‘Artificially flavoured’ shall be declared on the label. The publicity and advertisement made for sweetened aerated waters through any media shall also conspicuously explain and display the fact that these products do not contain any fruit.**

**Amended as follows:**

### **3.11 COMPOSITION**

(1) Any beverage which does not contain at least [twenty-five] per centum of fruit juice in its composition shall not be described as a fruit syrup, fruit juice squash or cordial or crush and shall be described as a non-fruit syrup, non-fruit juice squash or non-fruit cordial or non-fruit crush.

(2) Non-fruit vinegars, beverages, syrups, sherbets and other Products associated with fruits and vegetables shall be clearly and conspicuously marked on the

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label as “NON-FRUIT”. The word “NON-FRUIT” wherever used shall be as bold and in the same size and colour of the letters as are used for the name of the Products and shall immediately precede such name. No container containing any such Product shall have anything printed or labeled on it which may lead the consumer into believing that it is a fruit or vegetable Product. Neither shall the word ‘Fruit’ be used in describing such a Product nor shall it be sold under the cover of a label, which carries the picture of any fruit.

- (3) Non-Fruit Beverages (Non-Fruit Syrup, Non-Fruit Beverages or Drinks, Flavoured Non-Fruit Beverages or Drinks, Carbonated Non-Fruit Beverages or Drinks, Non-Fruit Ginger Cocktail- Ginger Beer or Ginger ale) or Sweetened aerated waters containing no fruit juice or fruit pulp or containing less than 10 percent of fruit juice or fruit pulp shall have a clear and conspicuous marking **on the body of the container** to the effect “**contains no fruit**”. In case artificial flavour has also been used, the words ‘**Artificially flavoured**’ shall be declared on the label. The publicity and advertisement made for Non-Fruit or sweetened Aerated waters through any media shall also conspicuously explain and display the fact that these Products do not contain any fruit.

**12. NO TITLE (text kept as such)**

**Amended as follows:**

**3.12 EVERY MANUFACTURER BOUND TO COMPLY DIRECTIONS UNDER FRUIT PRODUCTS ORDER.**

Every manufacturer to whom any direction or order is issued in pursuance of any provision of this Order shall be bound to comply with such direction or order and any failure on the part of the manufacturer to comply with such direction or order shall be deemed to be a contravention of the provision of this Order.



**13. The Licensing Officer or any officer authorized by him in this behalf may with a view to securing a compliance with this Order -**

- (a) **require any person to give any information in his possession with respect to the manufacture and disposal of any fruit products manufactured by him;**
- (b) **enter upon and inspect the premises of any licensee or manufacturer at any time with a view to satisfying himself that the requirements of this order are being complied with, and –**
  - (i) **on giving a proper receipt, seize or detain any fruit products manufactured, marked, packed or labeled otherwise than in accordance with the provisions of this Order or suspected to be manufactured, marked, packed or labeled in contravention of the provisions of this Order;**
  - (ii) **seize or detain, on giving a proper receipt, raw materials, documents, account books or other relevant evidence connected with manufacture of fruit products in respect of which he has reason to believe that a contravention of the Order has taken place;**
  - (iii) **dispose of all fruit products or raw materials, so seized or detained in such manner as he deems fit;**
- (c) **inspect any books or other documents of a licensee relating to the manufacture and disposal of fruit products;**
- (d) **collect, on payment, samples of fruit products intended or exposed for sale, or sold, or under dispatch or delivery to any dealer, agent or broker for the purpose of sale, and have such samples analyzed at a laboratory selected for the purpose by the Licensing Officer;**
- (e) **collect, from the licensee or manufacturer, free of charge, on giving a proper receipt, samples of any fruit products or any chemical, dye or any other ingredients used in the preparation of such fruit products from the premises of such licensee or manufacturer, in respect of which he has reason to believe that a contravention of the Order has taken place;**



- (f) **by an order in writing prohibit the sale or manufacture of any fruit products in respect of which he has reason to believe that a contravention of this Order has taken place, [at the dealers as well as the manufacturers end].**

**Amended as follows:**

**3.13 POWERS OF LICENSING OFFICER**

The Licensing Officer or any officer authorised by him in this behalf may with a view to securing a compliance with this Order-

- (a) to issue or cancel licence of fruit products business operators;
- (b) to sanction launch prosecution in cases of contraventions punishable with fine;
- (c) to get investigated any complaint which may be made in writing in respect of any contravention of the provisions of this order and the rules and regulations made thereunder;
- (d) require any person to give any information in his possession with respect to the manufacture and disposal of any fruit or vegetable Products manufacture and disposal of any fruit or vegetable Products manufactured by him;
- (e) enter upon and inspect the processing and / or the storage Premises of any licensee or manufacturer at any time with a view to satisfying himself that the requirements of this order are being complied with, and-
  - (i) on giving a proper receipt, seize or detain any fruit or vegetable products manufactured, marked, packed or labeled otherwise than in accordance with the provisions of this Order or suspected to be manufactured, marked, packed or labelled in contravention of the provisions of this Order;



- (ii) seize or detain, on giving a proper receipt, raw materials, documents, account books or other relevant evidence connected with manufacture of fruit or vegetable Products in respect of which he has reason to believe that contravention of the Order has taken place;
- (iii) to prohibit the sale of any article of fruit and vegetable which is in contravention of the provisions of this Order and rules and regulations made thereunder;
- (iv) dispose of all fruit or vegetable products or raw materials, so seized or detained, if the same is unfit for human consumption, as the same may not have been manufactured in accordance with this Order. However, if such Product is detained or seized only because of its improper labeling or packaging, and is not affecting its fitness for human consumption, then the Licensing Officer may impose a penalty on the licensee or manufacturer, as the case may be, and ask him to re-label or re-pack the same in accordance with the provisions of this Order;
- (f) inspect any books or other documents of a licensee relating to the manufacture and disposal of fruit or vegetable Products;
- (g) collect, on payment samples of fruit or vegetable Products intended or exposed for sale, or sold, or under dispatch or delivery to any dealer, agent or broker for the purpose of sale, and have such samples analysed at a laboratory selected for the purpose by the Licensing Officer;
- (h) **Sampling and Analysis Procedure**
  - (1) When a Licensing Officer takes a sample of fruit product for analysis, he shall –



- (a) give notice in writing of his intention to have it so analysed to the person from whom he has taken the sample and to the person, if any, whose name, address and other particulars have been disclosed:
  
- (b) except in special cases as may be provided by rules made under this Order, divide the sample into four parts and mark and seal or fasten up each part in such a manner as its nature permits and take the signature or thumb impression of the person from whom the sample has been taken in such place and in such manner as may be prescribed by the Central Government:

Provided that where such person refuses to sign or put his thumb impression, the Inspection / Licensing Officer shall call upon one or more witnesses and take his signature or thumb impression, in lieu of the signature or thumb impression of such person;

- (c)
  - (i) send one of the parts for analysis to the Food Analyst under intimation to the Licensing Officer;
  
  - (ii) send two parts to the Licensing Officer for keeping these in safe custody; and
  
  - (iii) send the remaining part for analysis to an accredited laboratory, if so requested by the fruit products manufacturer, under intimation to the Licensing Officer:

Provided that if the test reports received under sub-clauses (i) and (iii) are found to be at variance, then the Licensing Officer shall send one part of the sample kept in his custody,



to referral laboratory for analysis, whose decision thereon shall be final.

- (2) When a sample of any article of fruit product or adulterant is taken, the Licensing Officer shall, by the immediate succeeding working day, send the sample to the Food Analyst for the area concerned for analysis and report.
  - (3) Where the part of the sample sent to the Food Analyst is lost or damaged, the Licensing Officer shall, on a requisition made to him, by the Food Analyst, dispatch one of the parts of the sample sent to him, to the Food Analyst for analysis.
  - (4) An Article of fruit product or adulterant seized, unless destroyed, shall be produced before the Licensing Officer as soon as possible and in any case not later than seven days after the receipt of the report of the Food Analyst:  
  
Provided that if an application is made to the Licensing Officer in this behalf by the person from whom any article of fruit has been seized, the Licensing Officer to produce such article before him within such time as may be specified in the order.
  - (5) In case of imported articles of fruit, the Licensing Officer shall take its sample and send to the Food Analyst to notified laboratory for analysis who shall send the report within a period of five days to the Licensing Officer / Authorized officer.
  - (6) The Licensing Officer and the Food Analyst shall follow such procedure as may be specified by regulation.
- (i) collect, from the licensee or manufacturer, free of charge, on giving a proper receipt, samples of any fruit products or any chemical, dye or any other





ingredients used in the preparation of such fruit or vegetable Products from the premises of such licensee or manufacturer, in respect of which he has reason to believe that a contravention of the Order has taken place;

- (j) by an order in writing prohibit the sale or manufacture of any fruit or vegetable Products in respect of which he has reason to believe that a contravention of this Order has taken place at the dealers as well as the manufacturers' end.

**14. NO TITLE (text kept as such)**

**Amended as follows:**

**3.14 NO PERSON CAN REFUSE INFORMATION LEGALLY BOUND TO FURNISH**

No person shall refuse to furnish any information which he is legally bound to furnish and which may be lawfully demanded of him under provisions of this Order, or cancel, destroy, mutilate or deface any book or other document with a view to evade the provisions of this Order.

**15. No prosecution for contravention of any of the provision of this Order shall be instituted without the previous sanction of the Licensing Officer.**

**Amended as follows:**

**3.15 NO PROSECUTION WITHOUT SANCTION OF LICENSING OFFICER**

- (i) No prosecution for contravention of any of the provisions of this Order shall be instituted without the previous sanctions of the Licensing Officer.
- (ii) **Offences and Penalties** – Consultants have noted that FPO 1955 order is established under Essential Commodities Act 1955 (ECA 1955). Therefore, offences and penalties mentioned under ECA 1955 would be applicable on



FPO 1955. However, Consultants are of the view that the offences and penalties mentioned under ECA 1955 are not adequate enough and hence suggest the offences and penalties as contained in **Appendix E** should be incorporated within FPO 1955 following the due procedure as may be required under the law.

- (iii) The Licensee and/or Manufacturer should have self-regulation as with regards to observing the requirements as laid down under this Order without any interference of FPO officials. The FPO officials shall have the right to randomly scrutinize any document/ Premises so as to ensure that the requirements as laid down under the Order are being observed.

**16. NO TITLE (text kept as such)**

**Amended as follows:**

**3.16 FRUIT PRODUCTS ORDER – NOT TO APPLY INCASE OF**

Nothing in this Order shall be deemed to apply: --

- (i) to any syrup which -
  - (a) contains fruit juices for medicinal use,
  - (b) are prepared in accordance with the allopathic, homoeopathic, Ayurvedic, Unani or any other system of medicine, and
  - (c) are sold in bottles bearing a label containing the words 'For medicinal use only' which does not exhibit any picture of fruits, and
- (ii) to any fruit or vegetable Products manufactured or processed by a person in any non-municipal areas in quantities not exceeding one hundred kilograms during a term;



- (iii) to any fruit or vegetable Products produced by institutions, colleges and training centers for demonstration and training purpose and not for sale on commercial basis:
  
- (iv) to any Non-Fruit (aerated) beverage manufactured without motive power.



**CHAPTER - 4**

**REVIEW OF FIRST SCHEDULE**

**FORM 'A'**

(See clause 3.5 (1))

**Photo of the  
Authorized  
Signatory**

**APPLICATION FOR LICENCE UNDER THE FRUIT PRODUCTS ORDER, 1955**

1. Name and address of the applicant.
  - a. Names of the managing director, directors, proprietors, partners, etc.

**[2 Address of the factory/firm\*]**

**[2(a) Address of the godowns/stores of finished products.]**

**Amended as follows:**

2. Address of the factory/firm\*
  - a. Address of the godowns / stores of finished products.
  - b. Phone/ Mobile no.
  - c. E-mail address
3. Description of the fruit products which the applicant wishes to manufacture / re-packed / re-label\*.
4. Period for which the licence is required.
5. Plan of the factory and list of equipment.
6. (a) Whether any power is used in the manufacture of fruit products. If so, state the exact Horse Power used.



(b) Installed capacity per 8 hours shift.

7. Licence fee paid during the previous year.
8. Total value of the fruit products manufactured / re-packed / re-labelled\* during the previous year
9. I/We hereby undertake to comply with all the provisions of the Fruit Products Order, 1955.
10. I/We have forwarded a sum of Rupees in ..... respect of the licence fee due according to the provisions of Fruit Products Order, 1955.

*Signature (s) of the Applicant (s)*

**(\*Strike out whichever is inapplicable)**



**FORM 'B'**

(See clause 3.4)

**Government of India**

**Ministry of Food and Agriculture**

**[Department of Food (Food and Nutrition Board)]**

**Amended as Ministry of Food Processing Industries**

**Government of India Emblem**

Licence under Fruit Products Order, 1955.

**LICENCE NO. FPO\_\_\_\_\_**

1. Name and address of licence.
2. Address of authorized premises
3. Change of premises if any.

This licence is granted under and is subject to the provision of F.P.O., 1955 all of which must be complied with by the licensee.

**Place**

**Date**

Licensing Officer,

Director (Fruit and Vegetable Preservation), Department of Food.

<b>Validation and Renewal</b>				
<b>Period of validity</b>	<b>Items of fruit products authorized to</b>	<b>Category of licensee</b>	<b>Licence fee paid</b>	<b>Signature of Licensing Officer</b>
	<b>Manufacture / Re-pack/ Re-label</b>			
	Suman Project Consultants Pvt. Ltd. www.SumanFoodConsultants.Com			



**FORM 'B' A (NEW FORM ADDED)**

**(See clause 3.4)**

**Government of India**

**Ministry of Food Processing Industries**

**Government of India Emblem.**

**Inspection report to be maintained by licensee**

LICENCE NO. FPO\_\_\_\_\_

Name and address of license.

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Inspection Report to be maintained by licensee

<b>Sl. No.</b>	<b>Date</b>	<b>Details of inspection</b>	<b>Comments/suggestions</b>	<b>Action to be taken by licensee</b>	<b>Signature of inspector with Date/Time</b>	<b>Signature of licensee with Date / Time</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>





**FORM C**  
**(See clause 9)**

1. Name and address of licensee.
2. Address of the authorized premises for the manufacturing / Re-Packing / Re-Labeling of fruit products.
3. F.P.O. Licence No.....

Statement showing quantities of fruit and vegetable products manufactured in Kg with their sale value during the term.

<b>Sl. No.</b>	<b>Name of the Fruit Product</b>	<b>Size of can or bottle or Package</b>	<b>Quantity in Kg</b>	<b>Sale price per Kg or per unit of packing</b>	<b>Value</b>	<b>Quantity exported in Kg</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>



<b>Name of the country or port of Export</b>	<b>Rate per Kg or per unit of packing C.I.F./F.O.B.</b>	<b>Value</b>	<b>Remarks</b>
<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>

Signature of the Licensee

A register in the form of the above table shall be maintained by each licensee for inspections.

**FORM 'D'****(See clause 9-A) Amended as (See clause 3.9)****DAILY PRODUCTION REGISTER****(SEPARATE PAGES FOR DIFFERENT CATEGORIES OF PRODUCTS)**

Sl.	Date	Name of Product(s) manufactured	Essential raw material used			Sugar in kgs.
			Fruits/ Vegetables			
			Name of fruit / veg.	Qty. taken (Kgs.)	Prepared material (Kgs.)	
1	2	3	4	5	6	7

Other material like Citric acid pectin consumed	Qty. of Products Manufactured			Reference Stock Register Date/Entry		Remarks
	Size of pack	No. of units	Kgs.			
8	9	10	11	12	13	14

**FORM 'E'****(See clause 9-A) Amended as (See clause 3.9)****STOCK REGISTER****(SEPARATE PAGES TO BE ALLOTTED FOR DIFFERENT ITEMS OF FRUIT PRODUCTS)**

<b>Date</b>	<b>Stock in hand</b>	<b>Receipts</b>			
		<b>Particulars of receipt (Reference production Register)</b>		<b>Stocks received</b>	<b>Total Stocks</b>
		<b>Date</b>	<b>Entry</b>		
	<b>Kgs.</b>			<b>Kgs.</b>	<b>Kgs.</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>

<b>Stock disposed</b>	<b>Disposal Particular of disposal (Invoice/Cash Memo No. with date)</b>	<b>Balance</b>	<b>Remarks</b>
<b>Kgs.</b>			
<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>



## CHAPTER - 5

### REVIEW OF SECOND SCHEDULE

#### THE SECOND SCHEDULE

(See clauses 3.7 and 3.10)

#### PART IA

##### Sanitary Requirements of a Factory manufacturing fruit products.

The place where any fruit products are manufactured, (hereinafter referred to as the factory), shall comply with the following requirements and in the opinion of the licensing officer shall be fit for manufacturing the item or items for which the licence to the manufacturer.

1. The premises shall be clean, adequately lighted and ventilated and shall be cleaned, if required, by lime-washing or colour washing or painting or disinfecting or deodorizing.

2. Window, doors and other openings suited to screening shall be fly-proof. The doors should have springs so that they may close automatically. The ceiling or roof shall be of permanent nature. The floor should be cemented, tiled or laid in stone.

3. The equipments and manufacturing premises approved for the manufacture of fruit products shall not be used for the manufacture of other products repugnant to the manufacture of fruit products except under the conditions given as under: -

If the licenced premises are used for the manufacture of both fruit products and fish, meat and egg products there shall be a gap of at least one month when the change is made from fish, meat and egg products to the fruit products.



Explanation – The proposed date of change over from production of the fish, meat and egg products to that of the fruit products, shall be intimated to the concerned Regional Officer in writing and in case of outstation factories, the intimation shall have to be given by a registered letter.

4. The premises shall be located in a sanitary place and free from filthy surroundings.

5. All yards, out-houses, stores and all approaches of the premises shall be kept clean and sanitary.

6. The authorized premises shall be so constructed or maintained as to permit hygienic production and all operations in connection with preparing or packing of products shall be carried out carefully under strict sanitary Conditions laid down in the Factories Act, 1934, as amended and modified from time to time. [The premises shall not be used as to communicate directly with the residential premises.]

7. Equipment and machinery when employed shall be of such design which will permit easy cleaning. Adequate arrangements for cleaning of containers, tables, working parts of machinery etc. shall be provided.

8. No. vessel, container or other equipment, the use of which is likely to cause metallic contamination injurious to health shall be employed in the preparation, packing or storage of fruit. (Copper or brass vessels shall be always kept tinned. No. iron or galvanized iron shall come in contact with fruit products.)

9. The water used in the manufacture shall be potable and if required by the Licensing Officer shall be got examined chemically and bacteriologically by any recognized laboratory. The Manufacturer will bear the cost of such analysis.



**10. There should be efficient drainage system and there shall be adequate provisions for disposal of refuse.**

**11. [Wherever five or more employees of either sex are employed, a sufficient number of latrines for each sex as under shall be provided.**

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<b>Number of workers</b>	<b>Number of latrines</b>	<b>Number of wash basins</b>
<b>Upto 25</b>	<b>1</b>	<b>1</b>
<b>25 to 49</b>	<b>2</b>	<b>2</b>
<b>50 to 100</b>	<b>3</b>	<b>3</b>
<b>100 and above</b>	<b>5</b>	<b>5]</b>

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**12. Whenever cooking is done on open fire, proper arrangements will be made for outlet of smoke and soot.**

**13. No. person suffering from infectious or contagious disease shall be allowed to work in the factory. Arrangements shall be made to get all the workers engaged in the manufacture of fruit products medically examined once in a year to ensure that they are free from infectious, contagious and other diseases. A record of these examinations signed by a Registered Medical Practitioner shall be maintained for inspection.**

**The workers engaged in manufacture of fruit products shall be inoculated against the enteric group of diseases and vaccinated against small pox once a year and a certificate thereof shall be kept for inspection.**

**Incase of epidemic all workers should be inoculated or vaccinated.**



**14. The workers working in processing and preparation shall be provided with proper aprons and head wears which shall be clean. [The management shall see that all workers are neat, clean and tidy.]**

**Amended as follows:**

## **5.1 PART I A**

### **STANDARD CODE OF PRACTICE OF HYGIENE FOR PROCESSED FRUITS AND VEGETABLES**

#### **5.1.1 INTRODUCTION**

People have the right to expect the food they eat to be safe and suitable for consumption. Food borne illness and food borne injury are at best unpleasant; at worst, they can be fatal. Food spoilage is wasteful, costly and can adversely affect trade and consumer confidence.

International food trade, and foreign travel, is increasing, bringing important social and economic benefits. Effective hygiene control, therefore, is vital to avoid the adverse human health and economic consequences of food borne illness, food borne injury, and food spoilage. Everyone, including farmers and growers, manufacturers and processors, food handlers and consumers, has a responsibility to assure that food is safe and suitable for consumption.

The document follows the food chain from primary production through to final consumption, highlighting the key hygiene controls at each stage. The General Principles are recommended to Governments, industry (including individual primary producers, manufacturers, processors, food service operators and retailers) and consumers alike. It recommends a HACCP (Hazard Analysis and Critical Control Point-optional)-based approach wherever possible to enhance fruit and vegetable product safety.





### 5.1.2 PRIMARY PRODUCTION

1. Primary production should be managed in a way, which ensures food (fruit and vegetable) is safe and suitable for its intended use. Wherever necessary, this should include:
  - a) avoiding the use of areas where the environment poses a threat to the safety of fruit and vegetable.
  - b) controlling contaminants, pests and diseases of animals and plants in such a way as not to pose a threat to fruit and vegetable safety; and
  - c) adopting practices and measures to ensure fruit and vegetable is produced under appropriate hygienic conditions.
2. ENVIRONMENTAL HYGIENE - Primary fruit and vegetable production should not be carried on in areas where the presence of potentially harmful substances would lead to an unacceptable level of such substances in fruit and vegetables.
3. HYGIENIC PRODUCTION - On-farm programmes, which achieve specific food safety goals, are becoming an important part of primary production and should be encouraged. Producers should as far as practicable, implement measures to:
  - a) Control contamination from air, soil, water, feedstuffs, fertilizers (including natural fertilizers), pesticides, veterinary drugs or any other agent used in primary production;
  - b) Control plant and animal health so that it does not pose a threat to human health through fruit and vegetable consumption, or adversely affect the suitability of the product;



- c) Protect fruit and vegetable sources from faecal and other contamination; and
- d) care should be taken to manage wastes and store harmful substances appropriately.

#### **4. HANDLING, STORAGE AND TRANSPORT**

##### **4.1 Procedures should be in place to:**

- a) sort out their ingredients to segregate material which is evidently unfit for human consumption;
- b) dispose of any rejected material in a hygienic manner; and
- c) protect fruit and vegetable and their ingredients from contamination by pests, or by chemical, physical or microbiological contaminants or other objectionable substances during handling, transport.

##### **4.2 Care should be taken to prevent, as far as practicable, deterioration and spoilage through appropriate measures, which may include controlling temperature, humidity and / or other controls.**

#### **5.1.3 LOCATION**

Fruit and vegetable processing unit shall preferably be situated in an open, clean and healthy surroundings far away from road-side, where lot of dust arises due to vehicular traffic; garbage dumps; cattle sheds; open sewage drains or other places likely to breed flies. It shall be at considerable distance from other industrial factories spreading dust, smoke and disagreeable odours, which adversely affect the quality of, processed products. There should also be facilities for the disposal of cannery / factory waste.

#### **5.1.4 BUILDING**

1. Structure shall be of permanent nature and shall be suitable in size, construction and design to facilitate maintenance and hygienic operations for processing purposes. It



should provide sufficient space for placement of equipment and storage of material (raw as well as finished products) as is necessary for hygienic operations.

2. Single storey building should have a clear internal height of 5 to 6m to provide for natural light and air circulation, which in addition helps in removing steam from the processing hall.
3. Floor- The floor should be constructed of impervious material, which may be cleaned easily. A slope of 1 cm to 1.5 cm per linear meter is considered necessary for drainage. The floor should be covered with acid proof tiles and joined with acid proof cement, or if the floor is made of cement concrete, it should be covered with epoxyresin, acid proof cement or other acid proof compositions.
4. Walls and Ceilings- Interior surface of the walls should be smooth and non-absorbent to prevent accumulation of dust and vapors and facilitate cleaning. It should be covered with washable paint or glazed tiles up to a height of 1 to 1.5 m. walls and ceilings should be light colour, possibly white to minimize the contrast between work and surroundings and to give maximum reflection for better lighting and reducing the shadows. The ceiling should be painted with light colour for good illumination, cheerful surroundings and cleanliness. The junction of the floor with the walls and the junction between the two walls should be rounded to prevent accumulation of dust.
5. Drainage- Effective drainage should be provided to drain off the large quantity of water used for washing of the raw material, machinery, equipment, furniture, floor, etc, 15 to 30 cm half circular drains with glazed pipe at the bottom should be provided. The slope of the floor should be towards the drains and the farthest end of the floor from the drain should not be more than 5 m. The drains should have waters seals of minimum 5 cm diameter. At least 50 percent of the length of the drain should be covered to facilitate the movement of trolleys.
6. The unit shall be adequately lighted and ventilated keeping in view the number of workers, their hours of work and nature of operation. Ventilation and lighting shall



also be in accordance with the Factories Act, 1948, as amended from time to time. Proper ventilation is essential to prevent condensation and dripping. Exhaust fans should be provided where necessary.

7. The unit shall be made fly proof, rodent proof and bird proof and should be provided with self-closing double doors. The doors and windows should be covered with fly proof wire-gauze, and they should open outwards.
8. The rooms and the area surrounding the building should be kept clean and dust-free.
9. The building shall be maintained in proper state of repair and cleanliness at all times.

#### **5.1.5 PLANT LAYOUT**

1. The machinery and equipment should be placed with sufficient space to permit easy accessibility for cleaning and maintenance. It is desirable that at least 50 percent space in the factory should be free for movement of personnel.
2. Fast moving belts, gears and other hazardous parts of machinery should be properly guarded. Fire extinguishers should be placed at an easily accessible place and emergency exits must be available for the employees. The provision for safety of workers given in the Factories' Act, 1948 as amended up to date should be taken into consideration in the layout of the factory.

#### **5.1.6 FACTORIES AND PROCESSING HYGIENE**

##### **(A) GENERAL**

1. Rubbish shall be collected in covered receptacles and shall not be allowed to scatter on the floor of the factory. It should be disposed of in a manner, which is not detrimental to the hygienic conditions of the surroundings.
2. Adequate measures shall be taken to prevent mould growth on equipment and internal structures of processing and storage rooms. Adequate steps shall be taken to prevent infestation by cockroaches and other household pests.



3. When pesticides are used, care shall be exercised to prevent contamination of equipment and other materials. Under no circumstances shall these be used during processing.
4. Floors and drains shall be kept clean. In the manufacturing room, drain shall be provided with detachable covers.
5. On no account shall the manufacturing/processing room be used or converted into a storeroom.
6. There shall be separate storerooms for raw and packing materials and these rooms shall be free from dampness. Deleted: the
7. No lavatory, sink cesspool, or garbage shall be so situated or maintained that odours or fumes there from pervade any room where the product is prepared or stored.
8. Proper places shall be provided for storage of brooms, brushes, buckets and other cleaning gear.
9. The factory effluents shall be disposed off from the factory in a manner, which is not detrimental to the hygiene of the factory and its surroundings. The effluents shall not be let off on roads or in the open outside the factory premises.
10. Window glass and light fittings shall be maintained clean and dust free at all times.
11. There shall be no cobwebs in any part of the unit. Birds and domestic animals shall not be allowed in any part of the unit.
12. Disposal of Wastes and Refuse- Suitable facilities for the collection and removal of refuse, floor sweepings and dirt in covered containers and for hygienic disposal of wastes should be provided.



13. **Blown Containers-** Blown containers should be opened and the containers and their contents disposed of in hygienic manner as advised by the local health authority. When stored prior to disposal they should be kept in a room separate from edible products. In view of the grave hazard to health every precaution should be taken to ensure that product from blown containers is not consumed.
14. Manual handling of fruit and vegetable products during packaging should be minimum. Suitable equipment should be provided for the purpose. The use of rubber gloves may be recommended in special cases where the product has to be handled by hands.
15. The tinned products should be finally closed by sealing and not by any other method, such as soldering or tinning.
16. It should be ensured that the containers (cans, jars or bottles, etc) are both clean and sanitized.

## **(B) DRYING YARDS**

Where fruit is dried by the sun in drying yards, such yards should be recognized as fruit processing yards whether drying is carried out on a grower's property or as a commercial operation. Such yards should as far as possible comply with other provisions of this code as are applicable, and in particular with the following requirements.

1. **Location.** Drying yards should in all cases be located a sufficient distance from cattle feed lots, settling pods and / or other waste collection areas to prevent contamination from these sources. They should also be so located that they have proper and adequate drainage.
2. **Construction.** The drying yard should be so surfaced that it will permit maintenance of clean yard surfaces and prevent contamination of drying fruit. The drying yard should be fenced, where necessary, to keep out animals as far as practicable, and the area around the drying yard should be kept clean, free from weeds and other debris that can blow into the yard. Cutting sheds in which fruit is pitted, cut or otherwise prepared and spread on trays for



drying should preferably be closed buildings with screened windows that do not permit access by rodents, insects, or birds. Where cutting is done in open sheds, adequate precautions should be taken to protect against insect, rodent and bird contamination or harbourage. The sheds should be adequately lit and ventilated, and adequate, clean toilet and hand-washing facilities should be provided. Both fresh fruit for processing and the dried fruit should be stored in areas where it is protected from rodent, insect and bird depredations, and storage time should be kept to a minimum consistent with good manufacturing practice. There should be an adequate supply of clean potable water for hand-washing, equipment cleaning, and raw product washing.

3. *Hygienic operating requirements.* Drying trays, cutting equipment, and storage bins should be kept clean and free from fruit residue and foreign substances that may cause contamination of the fruit.

#### **(C) DEHYDRATED FRUITS AND VEGETABLES**

Methods of preservation or treatment of the finished product should be such as to kill any insects or mites remaining after processing and to result in protection against contamination, deterioration, or development of a public health hazard. The finished product should be of such moisture content that it can be held in the localities of origin and distribution under any normally foreseeable conditions for those localities without significant deterioration by decay, mould, enzymatic changes, or other causes. In addition to appropriate drying, the finished product may be:

1. treated with chemical preservatives (including fumigants) approved by the Codex Alimentarius Commission, provided the residue levels resulting from such treatment do not exceed the tolerances, as referenced in the commodity standards; and/or
2. heat processed; and/or
3. packed in hermetically sealed containers so that the product will remain safe and will not spoil under normal non-refrigerated storage conditions.

#### **(D) CANNED FRUIT AND VEGETABLE PRODUCTS**

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1. **Heat processing.** Products packaged in hermetically sealed containers should be so processed by heat as to result in a product that is safe and will not spoil under normally expected temperatures of non-refrigerated storage and transportation. Processing conditions for specific formulations of canned products should be based on the recommendation of technical specialists competent in canning technology. Such processing should be supervised in the cannery by technically competent personnel and be subject to check by the official agency having jurisdiction. Processing records adequate to identify the processing history should be kept and made available for inspection.

2. **Cooling of processed containers.** Where processed containers are cooled in water, the water should be of potable quality or suitably treated so as not to constitute a public health hazard. If cooling water is recirculated it should be effectively disinfected by chlorine or otherwise before use or each re-use.

3. **Decrating and handling of processed containers.** After processing and cooling, containers should be handled in such a manner as to avoid contamination of the product. Rough handling of processed cans, especially while they are still wet, should be avoided. Belts, runways and other processed can-conveying equipment should be maintained in good hygienic condition.

4. **Inspection of processing containers.** Containers should be inspected before labelling and casing and defective containers withdrawn.

**(E) QUICK FREEZING**

1. After preparation the product should be quick frozen without delay. The quick freezing process should be carried out in appropriate equipment in such a way as to minimize physical, biochemical and microbiological changes.

2. To achieve this the freezing operation should be carried out in such a way that the range of temperature of maximum crystallization (for most products -1°C to -5°C (+30°F to +23°F) is passed quickly.





3. The process should not be regarded as complete unless and until the product temperature has reached  $-18^{\circ}\text{C}$  ( $0^{\circ}\text{F}$ ) at the thermal centre after thermal stabilization.
4. Specific limits for freezing times and speeds are not given, as the requirements of both differ for various fruits and vegetables. Where necessary, specific indication should be made in individual product standards or Codes of Practice.
5. Effective measures should be taken to keep temperature rise to a minimum, after the quick freezing process and during handling and transport to cold storage.
6. The recognized practice of repackaging quick frozen products should be carried out only under controlled conditions.
7. Cold stores should be operated so as to maintain a product temperature of  $-18^{\circ}\text{C}$  ( $0^{\circ}\text{F}$ ) or lower with a minimum of fluctuation.
8. Excessive product temperature fluctuations either in range or frequency are undesirable. They may lead to serious dehydration in susceptible products and to other forms of quality deterioration. Although temperature fluctuations are generally less harmful at lower storage temperatures, variations greater than 2 Centigrade degrees (4 Fahrenheit degrees) in the air temperature should, so far as possible, be avoided.
9. Frequent temperature checks should be carried out, preferably with recording thermometers or devices that will continually monitor storage temperatures.
10. The transport of quick frozen foods from warehouse cold store to warehouse cold store should be carried out in equipment capable of maintaining and so operated as to maintain a product temperature of  $-18^{\circ}\text{C}$  ( $0^{\circ}\text{F}$ ) or lower. Vehicles should be pre-cooled to  $+10^{\circ}\text{C}$  ( $50^{\circ}\text{F}$ ) or lower prior to loading and should be equipped with devices to record temperatures during transport.



### 5.1.7 INSTALLATIONS AND CONSTRUCTION OF EQUIPMENT

1. All equipment shall be installed on a foundation of durable, easily cleanable material.
2. Equipment shall be placed away from the walls with a view to providing facilities for inspection and cleaning.
3. Pipelines for conveying the product from one point to the other should be direct and as short as possible and without any dead ends, so that they may be cleaned internally by flushing with water. Valves and taps in the line should be of removable type and should have full way opening to avoid formation of small pockets of stagnant fruit and vegetable product.
4. The equipment should be constructed and installed in such a manner as to facilitate efficient cleaning and sanitization and easy dismantling and assembling of all the parts that come in contact with the product. All the equipment, containers, lids and pipes shall be smooth, impervious and corrosion resistant. All the materials used for construction of those surfaces, which come into contact with the product shall be non-toxic.
5. All electrical connections, such as switch boxes, control boxes, conduit cables shall be installed in such a way as to facilitate proper cleaning. All equipment coming into contact with raw material or the products shall be kept clean.

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### 5.1.8 EQUIPMENT AND CONTAINERS CLEANLINESS

1. All the processing systems shall be thoroughly cleaned with chlorinated water (at least 50 ppm available chlorine after every processing run to remove the microorganisms, if any, and followed by washing with potable water to remove the residual chlorine in the system.



2. All the containers and lids should be cleaned thoroughly with the use of sodium carbonate, 1 to 1.5 percent concentration~~s~~ or any other suitable detergent solution and sanitized with at least 50 ppm chlorine solution prior to their use. The residual chlorine may be removed by flushing the equipment with potable water before use.
3. Tables and work benches used for cutting and packing fruits and vegetables should have stainless steel or aluminum alloy or marble tops. The table and work benches top shall always be maintained in good condition and cleaned thoroughly before and after use with potable water and sanitization at a concentration of approximately 25 ppm of chlorine.

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### 5.1.9 WATER SUPPLY

1. Water required for fruit and vegetable preservation should be potable and free from contamination. The water should not be alkaline or very hard and should be free from organic matter. Presence of excess iron and sulphur compounds in it renders it unsuitable for making syrups or brine. It should be colourless, odourless and tasteless.
2. There shall be an adequate supply of safe and potable water (see IS:4251-1967 quality tolerances ~~of water for processed food industry~~). Running water under pressure shall be easily accessible to all rooms and areas in which fruit and vegetable is handled~~d~~ and equipment are washed.
3. The equipment shall be so installed and used that back siphonage of liquid into the potable water lines are precluded.
4. Hot and cold water in ample supply shall be provided for plant clean-up needs, where necessary.
5. The storage tanks for water should, unless completely sealed, be kept covered with tight fitting lids, examined regularly and cleaned out at least once every six months.

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The date of last cleaning and next cleaning shall be prominently displayed on the storage tanks.

6. The water shall be periodically examined as desired by the licensing authority, chemically and bacteriologically. A record of such examination shall be maintained.

#### **5.10 EMPLOYEE HYGIENE**

1. Every person employed for fruit and vegetable handling in the factory shall be medically examined by an authorized registered medical practitioner and the examination shall include X-ray of the chest for tuberculosis. The examination shall also include: examination of stool for protozoal and helminthic infestation for those parasites, which are transmitted by ingestion, and for the presence of *Salmonella*, *Shigella* species and *Vibrio cholerae*. Subsequently, the employee shall be medically examined once in a year or more frequently, if necessary, to ensure that he is medically fit and free from communicable diseases. A record of such examination shall be maintained.
2. It shall be impressed on employees that they should notify the medical officer and management, cases of fever, vomiting, diarrhea, typhoid, dysentery, boils, cuts and sores and ulcers (however small), discharging ears and notifiable diseases occurring in their own homes and families.
3. No worker who is suspected to be suffering from any of the disorders listed in 10.2 shall be permitted to work inside the unit. The supervisor shall check the personal hygiene of the workers before the start of work and whenever they enter any processing room after any absence
4. Employees shall keep their fingernails short and clean and wash their hands with soap or detergent and water before commencing work and after each absence, especially after using sanitary conveniences. Towels used for drying hands should be clean. No worker shall allow his hands or any part of his body or clothing to



come into contact with food. He should adopt strict hygienic practices so as to avoid adding any microbial contamination to the material.

5. All employees shall be inoculated against typhoid and paratyphoid A diseases on their first appointment and thereafter once in every five years. In case of epidemic all workers shall be inoculated. A record shall be maintained.
6. No worker shall be allowed to work without proper clothing and footwear.
7. Employees shall be provided with clean uniforms (preferably white) or aprons or both and clean washable caps, where necessary.
8. Separate room or place for changing the clothes shall be provided. The clothes shall not be hung in any processing room.
9. Eating, spitting, nose cleaning or the use of tobacco in any form or chewing betel leaves shall be prohibited within the manufacturing, packing and storage area of the unit. Notice to this effect shall be prominently displayed and enforced.
10. Sufficient and suitable sanitary conveniences shall be provided, maintained and kept clean in every factory. The conveniences shall be properly lighted. Separate conveniences shall be provided for each sex. No convenience shall open directly into any workroom in the factory. The convenience shall always be maintained clean and in good repairs.
11. Sufficient number of wash basins with adequate provisions of nail brushes, soap and towels, latrines and urinals in the prescribed manner should be provided, conveniently situated and accessible to workers at all times while they are at the factory. The washbasins should be installed in or alongside the sanitary conveniences.

Wherever five or more employees of either sex are employed, a sufficient number of latrines for each sex as under shall be provided.



Number of workers	Number of latrines	Number of urinals	Number of wash basins
Up to 25	1	1	1
25 to 49	2	2	2
50 to 100	3	3	3
100 & above	5	5	5

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### 5.1.11 TRANSPORTAION

1. Measures should be taken where necessary to:

- a) protect fruit or vegetable from potential sources of contamination;
- b) protect fruit or vegetable from damage likely to render it unsuitable for consumption; and
- c) provide an environment which effectively controls the growth of pathogenic or spoilage microorganisms and the production of toxins in fruit or vegetable.

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**2. USE AND MAINTENANCE** - Conveyances and containers for transporting food should be kept in an appropriate sate of cleanliness, repair and condition. Where the same conveyance or container is used for transporting different food, or non-foods, effective cleaning and, where necessary, disinfections should take place between loads.

### 5.1.12 PRODUCT INFORMATION AND CONSUMER AWARENESS

- 1 (a) Products should bear appropriate information to ensure that:
  - (i) adequate and accessible information is available to the next person in the food chain to enable them the handle, store, process, prepare and display the product safely and correctly;
  - (ii) the lot or batch can be easily identified and recalled of necessary.



- (b) Consumers should have enough knowledge of fruit and vegetable hygiene to enable them to:
    - (i) understand the importance of product information;
    - (ii) make informed choices appropriate to the individual; and
    - (iii) prevent contamination and growth or survival of foodborne pathogens by storing, preparing and using it correctly.
  
  - (c) Information for industry or trade users should be clearly distinguishable from consumer information, particularly on food labels.
  
  - (d) Insufficient product information, and/or inadequate knowledge of general food hygiene, can lead to products being mishandled at later stages in the food chain. Such mishandled products can result in illness, or products becoming unsuitable for consumption, even where adequate hygiene control measures have been taken earlier in the food chain.
2. **LOT IDENTIFICATION** - Lot identification is essential in product recall and also helps effective stock rotation. Each container of fruit and vegetable should be permanently marked to identify the producer and the lot. Standard for the labelling of prepackaged fruit and vegetable products applies.
3. **PRODUCT INFORMATION** - All fruit and vegetable products should be accompanied by or bear adequate information to enable the next person in the food chain to handle, display, store and prepare and use the product safely and correctly.
4. **LABELLING** - Prepackaged products should be labeled with clear instructions to enable the next person in the food chain to handle, display, store and use the product safely. Standard for the labelling of prepackaged fruit and vegetable products applies herewith.



5. **CONSUMER EDUCATION** - Health education programmes should cover general fruit and vegetable product hygiene. Such programmes should enable consumers to understand the importance of any product information and to follow any instructions accompanying products, and make informed choices. In particular consumers should be informed of the relationship between time/temperature control and foodborne illness.

### 5.1.13 TRAINING

Those engaged in food operations who come directly into contact with fruit and vegetable should be trained, and/or instructed in food hygiene to a level appropriate to the operations they are to perform.

Training is fundamentally important to any food hygiene system. Inadequate hygiene training, and/or instruction and supervision of *all* people involved in fruit and vegetable product related activities pose a potential threat to the safety of product and its suitability for consumption

1. **AWARENESS AND RESPONSIBILITIES** - Food product hygiene training is fundamentally important. All personnel should be aware of their role and responsibility in protection of fruit and vegetable products from contamination or deterioration. Product handlers should have the necessary knowledge and skills to enable them to handle product hygienically. Those who handle strong cleaning chemicals or other potentially hazardous chemicals should be instructed in safe handling techniques.

2. **TRAINING PROGRAMMES** - Factors to take into account in assessing the level of training requirement include:

- (a) the nature of the product, in particular its ability to sustain growth; of pathogenic or spoilage micro-organisms;
- (b) the manner in which the product is handled and packed, including the probability of contamination;
- (c) the extent and nature of processing or further preparation before final

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consumption;

- (d) the conditions under which the product will be stored; and
- (e) the expected length of time before consumption.

3. **INSTRUCTION AND SUPERVISION** - Periodic assessments of the effectiveness of training and instruction programmes should be made, as well as routine supervision and checks to ensure that procedures are being carried out effectively.

Managers and supervisors of fruit and vegetable processes should have the necessary knowledge of product hygiene principles and practices to be able to judge potential risks and take the necessary action to remedy deficiencies.

4. **REFRESHER TRAINING** - Training programmes should be routinely reviewed and updated where necessary. Systems should be in place to ensure that fruit and vegetable product handlers remain aware of all procedures necessary to maintain the safety and suitability of them.



[PART I (B)]

[The factories will be categorized as under:-

- (a) Large scale – factories with installed capacity of more than two metric tones of fruit products per day or having total annual production of more than 250 metric tones.
- (b) Small scale- factories with installed capacity upto two metric tonnes of fruit products per day and total annual production of more than 50 metric tonnes and not exceeding 250 tonnes.
- (c) Cottage scale- factories with total annual production of fruit products of more than 10 tonnes but less than 50 tonnes.
- (d) Home scale- factories with total annual production of fruit products except canned vegetables not exceeding 10 metric tonnes.

[Home scale and Small scale factories shall further be grouped into Category (A) and Category (B) as under: -

Home Scale – Category (A) Primary processing units operating in rural areas for peeling, slicing and bringing of raw mangoes for the manufacture of mango slices in brine for sale to firms licensed under this Order. Annual production not to exceed 5 tonnes.

Home Scale – Category (B) Factories with total annual production of fruit products, except canned vegetables, not exceeding 10 tonnes].

Small Scale – Category (A) factories licenced for manufacture of fruit products with installed capacity not exceeding one metric tonne per day and annual production ranging over 50 metric tonnes to 100 metric tonnes.



**Small Scale – Category (B) factories licenced for manufacture of fruit products with installed daily capacity not exceeding two metric tonnes with annual production ranging from over 100 metric tonnes to 250 metric tonnes.]**

**The licensees under categories mentioned above shall comply with the following requirements: -**

**Water – Every licensee shall arrange for at least one kilo litre per day of potable water and its availability shall be adequately increased as per production. Free flowing pipe water supply shall be made available in the processing hall.**

**Storage Space Requirements – Adequate space shall be provided for storage of fresh fruits, vegetables, finished products and other raw materials.**

**Minimum Area manufacturing premises excluding store and Office space –**

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	<b>Square metre</b>
<b>(1) [Home scale</b>	
(i) <b>Category (A)</b>	
(a) <b>Units employing not more than 5 workers</b>	<b>10</b>
(b) <b>Units employing 6-10 workers</b>	<b>20</b>
(ii) <b>Category (B)</b>	<b>25]</b>
<b>(2) Cottage scale</b>	<b>60</b>
<b>(3) Small Scale</b>	
(i) <b>Category (A)</b>	<b>100</b>
(ii) <b>Category (B)</b>	<b>150</b>
<b>(4) *Large scale</b>	<b>300</b>

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**\*(Area occupied by machinery shall not be more than 50 per cent of the manufacturing area.)**

**Amended as follows:**



## **5.2 PART I (B)**

### **5.2.1 CATEGORIES OF FACTORIES**

**The factories will be categorized based upon installed capacity as under: -**

(a) *Home scale*- factories with total annual production of fruit and vegetables up to 50 metric tones.

(b) *Cottage scale*- factories with total annual production of fruit and vegetable products up to 100 metric tones.

(c) *Small scale*-factories with total annual production of fruit and vegetable up to 250 metric tones

(d) *Medium scale*- factories with total annual production of fruit and vegetable up to 500 metric tones

(e) *Large scale*- factories with total annual production of fruit and vegetable products above 500 metric tones.

(f) *Re-packer*- factories with total annual production of fruit and vegetable products will be as per the categories of scale of production given in a, b, c, d, and e.

*Water- every licensee* shall arrange for at least one kilolitre per day of potable water and its availability shall be adequately increased as per production. Free flowing pipe water supply shall be made available in the processing hall.

*Storage Space Requirements*- Adequate space shall be provided for storage of fresh fruits, vegetables, finished products and other raw materials depending upon the type of production and raw materials.

**Minimum Area of manufacturing premises excluding stores and office space-**

Sl. No.	Category	Manufacturing Area (Square Meter)	Raw Material Storage (Square Meter)	Height in meter **
1.	Home scale	25	20	3.3
2.	Cottage scale	60	40	3.5
3.	Small scale	100	100	4
4.	*Medium scale	200	200	4
5.	*Large scale	300	300	4.5
6.	Re-Packer may follow the area specifications as per the type of scale of category as shown against Sl. No. 1 to 5.			

\*Area occupied by machinery shall not be more than 50 per cent of manufacturing area.

\*\*Minimum height may be relaxed in hill areas or where cooking is not involved.

OR

**CATEGORY OF FACTORIES**

The above categories of factories are on the basis of FPO 1955 and the changes suggested by FPO officials based on their experience. However, the categorization based on Micro, Small and Medium Enterprises Development (MSMED) Act 2006 is as follows.

<b>Manufacturing Sector</b>	
<b>Enterprises</b>	<b>Investment in plant &amp; machinery</b>
Micro Enterprises	Does not exceed twenty five lakh rupees
Small Enterprises	More than twenty five lakh rupees but does not exceed five crore rupees
Medium Enterprises	More than five crore rupees but does not exceed ten crore rupees

Therefore, the categorization given as above is a better option, since the same is on a national level.

**TECHNICAL STAFF AND LABORATORY REQUIREMENTS****Large Scale**

**Large Scale – The manufacture of fruit products shall be supervised by a chemist who should possess one of the following qualifications: -**

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**(a) B. Sc. (Tech.) with food technology or chemical engineering with at least one year experience in a fruit preservation factory.**

**(b) B.Sc. with postgraduate diploma in fruit technology from a recognized institute, or diploma in fruit preservation by Kalamassery Polytechnic or Kerala Government Polytechnic.**

**(c) B. Sc. with chemistry or Agriculture as one of the subjects and three years practical experience in a fruit and vegetable preservation factory. The factory shall have a well-equipped laboratory with 20 sq. meters floor area with adequate facilities for analysis of fruit products in accordance with the specifications laid down under the second schedule of this Order.**

**Small Scale – The manufacture of fruit products shall be supervised by a person possessing one of the following qualifications: -**

**(a) B.Sc. with Chemistry or Agriculture as one of the subjects;**

**(b) A Diploma or a Certificate in fruit preservation of a course of at least three months duration, from a recognized institute.**

**Amended as follows:**

## **5.2.2 TECHNICAL STAFF AND LABORATORY REQUIREMENTS**

### **Large and Medium Scale**

*Large and Medium Scale:-* The manufacture of fruit products shall be supervised by a Food Technologist who should possess one of the following qualifications: -

(a) B. Sc. (Tech.) with Food Technology with at least one year experience in a fruit preservation factory.

(b) B. Sc. with postgraduate diploma in Fruit Technology from a recognized institute.



- (c) B. Sc. with Chemistry or Agriculture as one of the subjects and three years practical experience in a fruit and vegetable preservation factory.

The factory shall have a well-equipped laboratory with 20 sq. meters floor area with adequate facilities for analysis of fruit and vegetable products in accordance with the specification laid down under the second schedule of this Order.

The quality control laboratory shall be supervised by another Food Technologist whose qualifications shall be similar as mentioned above.

#### **Up to Small Scale**

*Up to Small Scale:-* The manufacture of fruit and vegetable products shall be supervised by a person possessing on the following qualifications: -

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- (a) B. Sc. with Food Chemistry / Food Technology or Agriculture as one of the subjects.
- (b) A Diploma or a Certificate in fruit preservation of a course of at least three months duration, from a recognized institute.

#### **Minimum requirement in respect of machinery and equipment: -**

<b><u>Sl. No.</u></b>	<b><u>Operation</u></b>	<b><u>[Cottage and Small Scale]</u></b>	<b><u>Large Scale</u></b>
<b><u>1</u></b>	<b><u>2</u></b>	<b><u>3</u></b>	<b><u>4</u></b>
<b><u>1.</u></b>	<b><u>(a) Washing of raw materials</u></b>	<b><u>Two rectangular cement or aluminium metal tanks with false bottom</u></b> <b><u>Dimensions:</u></b> <b><u>1 x 0.75 x 0.75 metres.</u></b>	<b><u>Three or more rectangular cement or aluminium with false bottom</u></b> <b><u>Dimensions:</u></b> <b><u>1 x 0.75 x 0.75 Meters</u></b> <b><u>washing a machine.</u></b>



	<b><u>(b) Washing of bottles</u></b>	<b><u>1. Bottle washing machine</u></b> <b><u>2. Racks for holding bottles</u></b>	<b><u>1. Bottle washing machine</u></b> <b><u>2. Trolleys for holding and conveying bottles.</u></b>
<b><u>2.</u></b>	<b><u>Preparation of fruit and vegetables</u></b>	<b><u>1. Table with aluminium or stainless steel or non-corrosive material top of 4 sq. metres area.</u></b>	<b><u>1. Table with aluminium stainless steel or non-corrosive material of 10 sq. metres area adequate conveyor belt.</u></b>
		<b><u>2. Stainless steel, peeling, slicing, trimming and coring knives.</u></b>	<b><u>2. Stainless steel coring, cubin and cutting machine/equipment.</u></b>
		<b><u>3. Where wooden vats or cemented tanks are used for curing and leaching these should be suitably covered.</u></b>	<b><u>3. Wooden vats of cemented tanks for curing and leaching with suitable covers.</u></b>
		<b><u>4. Not less than 12 Aluminium or Stainless steel trays.</u></b>	<b><u>4. Not less than 50 aluminium or stainless steel trays.</u></b>
<b><u>3.</u></b>	<b><u>Juicing pulping and mixing</u></b>	<b><u>1. Juice extractor and /or basket press or rosing equipment.</u></b>	<b><u>1. Power driven extractor or hydraulic press.</u></b>
		<b><u>2. Stainless steel or aluminium sieve.</u></b>	<b><u>2. Pulping machine.</u></b>
		<b><u>3. Aluminium or stainless steel drums of not less than 100 litres capacity.</u></b>	<b><u>3. Non-corrosive Stainless steel tanks having total capacity of not less than 500 litres.</u></b>





		<u>4. Stainless steel or aluminium buckets.</u>	
		<u>5. Pulper for tomato products and mango pulp.</u>	
<u>4.</u>	<u>Heating Processing</u>	<u>1. Boiler with steam jacketed kettles, or gas cooking.</u> <u>[1. (a) Bhattis worked with soft coke or any other fuel having proper arrangements for outlets of smoke.]</u> <u>2. Thermometers and hydrometers.</u> <u>3. Refractometers.</u>	<u>1. Boiler.</u> <u>2. Stream-Jacketed kettles.</u> <u>3. Thermometers</u> <u>4. Sensitive balance for preservatives.</u> <u>5. Refractometers.</u> <u>6. Pasteurizer for Brewed Vinegar.</u>
<u>5.</u>	<u>Filling and sealing</u>	<u>1. Bottle filling machine.</u> <u>2. Bottle sealing machine.</u> <u>3. Crown corking machine</u> <u>4. Weighing balance.</u>	<u>1. Bottle filling machine.</u> <u>2. Bottle sealing machine.</u> <u>3. Heavy duty corking machine.</u> <u>4. Weighing machine</u>



<b>6.</b>	<b><u>Exhausting, sealing and processing for canning and bottling.</u></b>	<b><u>1. Tanks with crates for exhausting.</u></b> <b><u>2. Semi automatic double seamer.</u></b> <b><u>3. Cooling tanks.</u></b> <b><u>4. Minimum retorting capacity. 100 A2 ½ cans per charge.</u></b> <b><u>5. Pressure can tester.</u></b>	<b><u>1. Exhaust box.</u></b> <b><u>2. Semi automatic double seamer.</u></b> <b><u>3. Cooling tank (adequate capacity).</u></b> <b><u>4. Retorting capacity 250 A2 ½ can per charge.</u></b> <b><u>5. Pressure can tester.</u></b>
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**Manufacturers of items under Category A-2 need not provide machinery and equipment required for handling of fruits.**

**Amended as follows:**

**5.2.3 MINIMUM REQUIREMENT IN RESPECT OF MACHINERY AND EQUIPMENT**

Due to automation as well as lot of development that has taken place where machinery and equipment are concerned, it is therefore, suggested to discontinue the above mentioned minimum requirement of machinery and equipment. Moreover, large choices are available in the market so that machinery and equipment depending upon the production of items may be procured for the manufacture of fruits and vegetable products accordingly. However, basic equipment required for canning is – preparation of raw material, blanching, exhausting, seaming / capping and retorting.

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## CHAPTER - 6

### REVIEW OF STANDARDS

#### PART II

*Specifications for fruit juice, pulp concentrate, squashes, cordials, crush, fruit syrups [nectar aerated water containing fruit juice or pulp] and ready to serve fruit beverages.*

<u>Product</u>	<u>Variety</u>	<u>Special Chart</u>		<u>General Characteristics</u>
		<u>Minimum percentage of total soluble solids in the final products weight over weight.</u>	<u>Minimum percentage of fruit juice in the final products.</u>	
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
<u>Fruit Syrup</u>	<u>Any suitable kind &amp; variety</u>	<u>65</u>	<u>25</u>	<u>Fruit juice shall be concentrated liquid product expressed from ripe fruit and may contain portions of the pulp &amp; other cellular matter natural to the fruit. Concentrate, squash and crush shall contain fruit pulp. Cordials</u>
<u>Crush</u>	<u>Do</u>	<u>55</u>	<u>25</u>	
<u>[Squash] than Mango nectar</u>	<u>Do</u>	<u>40</u>	<u>25</u>	
<u>Cordial</u>	<u>Do</u>	<u>30</u>	<u>25</u>	
<u>Unsweetened juice</u>	<u>Do</u>	<u>Natural</u>	<u>100</u>	
<u>Sweetened juice</u>	<u>Do</u>	<u>10</u>	<u>85</u>	
<u>Ready to serve beverage including aerated waters, containing fruit juice or pulp.</u>	<u>Do</u>	<u>10</u>	<u>[10]</u>	



<u>Mango Nectar</u>	<u>Do</u>	<u>15</u>	<u>20</u>	<u>shall be the clear final product prepared by adding sugar to the clarified juice that is from which pulp and other cellular matter have been removed. The one substance that may be added to fruit juice or pulp are water, peel oil, fruit essences and flavours, common salt, sugar, invert sugar and /or liquid glucose, ascorbic acid, citric acid, permitted colours and preservatives. The acidity of the finished product.</u>
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<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
<u>Fruit juice concentrate</u>	<u>Do</u>	<u>32</u>	[100]	<u>Shall not be less than 4 per cent. In the case of pure lemon juice or pulp and not less than 5 per cent in the case of pure lime juice but shall not exceed 3.5 per cent in the case of other juice, crush, squash, cordial ready to serve beverage and syrup expressed as anhydrous citric acid. Canned pulp or juice shall not show any positive pressure at sea level. Canned or bottled pulp or juice shall show no sign of bacterial growth when incubated at 37°C for one week. Canned pulp or juice will not contain any preservative. The finished product shall have a good flavour and be free from objectionable taints and flavours. It shall be of good keeping</u>



				<p><u>quality and should show no sign of fermentation. Ready to serve beverage may be carbonated. When frozen the product may be described as Ice squash or 'ice' cordial in conjunction with name of the fruit such as ice orange squash and the like. In case of Mango Juice 45 per cent. Water may be added if declared on the label. [Concentrates shall be free from gelatin or curdling and in case of orange concentrate, the pulp content shall not exceed 40% v/v.]</u></p> <p><u>[Any syrups / sharbats containing a minimum of 10 per cent of dry fruits shall also qualify to be called as fruit syrups.]</u></p>
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[In the case of ready to serve beverages containing lime juice, the minimum percentage of fruit juice shall remain as 5 per cent].

**Amended as follows:**

**(Fruit Syrup, Crush, Squash, Cordial are shown at 6C4 - [specification remains the same] Unsweetened Juice and Sweetened Juice are shown at 6C1, Ready to serve beverage including aerated waters containing fruit juice or pulp are shown at 6C4, Mango Nectar is shown at 6C3 (Fruit Nectar), Fruit Juice Concentrate is shown at 6A7.)**

**[PART II (A)]**  
**Specifications for Fruit Nectar**

<b><u>Product</u></b>	<b><u>Variety</u></b>	<b><u>Special Characteristics</u></b>		<b><u>General Characteristics</u></b>
		<b><u>Min. percentage of total soluble solids in the product</u></b>	<b><u>Min. percentage of fruit juice in final product</u></b>	
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
<b><u>FRUIT NECTAR (Excluding Orange and Pineapple Nectar)</u></b>	<b><u>Any suitable kind and variety</u></b>	<u>15</u>	<u>20</u>	<b><u>Nectar shall be prepared from pulps extracted from fully ripe, sound fruits. Finished product shall contain good body, uniform colour and other portions of pulp or other cellular</u></b>



				<u>matter natural to the fruit.</u>
<u>Orange and Pineapple nectar</u>	<u>Any suitable kind and variety</u>	<u>15</u>	<u>40</u>	<u>The only substances that may be added to the pulp or juice are water, sugar, invert sugar or liquid glucose, ascorbic acid and citric acid. The acidity as citric acid and alcohol content of the product should not exceed 1.5 and 0.1 per cent respectively. It should not contain any preservative, artificial colours or sweetening matters. The finished products should possess characteristic flavour of the fruit and be free from burnt or objectionable taints and flavour. It should be free from larva and others fruit insects. The product when canned shall not show any positive pressure at sea level and shall not show a sign of bacterial growth when incubated at 37° C for one week.]</u>

Amended as follows:                      **Shown at 6C3**

**PART II (B)**  
**Specifications for Canned Mango Pulp (Natural)**

<u>Product</u>	<u>Variety</u>	<u>Total soluble solids</u>	<u>General Characteristics</u>
<u>Mango pulp</u>	<u>Any suitable variety of mango</u>	<u>Not less than 12%</u>	<u>Mango pulp shall be extracted from sound ripe fruit. It shall possess the characteristic flavour of the variety of mango from which it is extracted. The material shall be passed through a minimum 1.5 mm. mesh sieve so as to have a homogeneous product. It shall be free from any cooked flavour, black specks, extraneous matter</u>



			namely portion of skin, fibrous matter, larva and other insects or fragments thereof. The pulp shall not show any sign of bacterial growth when incubated at 37° C. The products shall not show any positive pressure at sea level.
The variety of the mango used in extraction of pulp shall be clearly and conspicuously marked on the containers.			

**PART II C**  
**Specification for Canned Mango Pulp (Sweetened)**

<b><u>Product</u></b>	<b><u>Variety</u></b>	<b><u>Total soluble solids</u></b>	<b><u>Minimum acidity</u></b>	<b><u>General Characteristics</u></b>
Canned Mango pulp (Sweetened)	Any suitable variety of Mango	Not less than 15%	0.3% as Citric Acid	Mango pulp shall be extracted from sound ripe fruit it shall possess the characteristic flavour of the variety of mango from which it is extracted. The material shall be passed through a minimum 1.5 mm mesh sieve so as to have a homogeneous product. It shall be free from any cooked flavour, black specks, extraneous matter namely portion of skin, fibrous matter larva and other insects or fragments thereof. The pulp shall not show any sign of bacterial growth when incubated at 37°C. The product shall not show any positive pressure at sea level.
The variety of the mango used in extraction of pulp shall be clearly and conspicuously marked on the container.				

**PART II (B) and PART II C Amended as follows: Shown at 6C2 (Fruit Pulp/Puree)**

**PART II (D)**



**[Specifications for sweetened aerated waters with no fruit juice or fruit pulp or containing less than 10 per cent, of fruit juice or fruit pulp]**

<b><u>Product</u></b>	<b><u>Variety</u></b>	<b><u>Total soluble solids</u></b>	<b><u>Definition and general Characteristics</u></b>
<u>Flavoured Sweetened Aerated Waters</u>	<u>Sweetened aerated waters with single or composite flavours</u>	<u>Minimum 8%</u>	<p>[Aerated water means the water.</p> <p>(i) which conforms to the standards prescribed for packaged Drinking Water under Prevention of Food Adulteration Rules, 1955; and</p> <p>(ii) is impregnated with carbon dioxide under pressure in sealed containers;</p> <p>(iii) contain any of the following eight singly or in combination: -</p> <p><u>Sugar, Liquid glucose, dextrose monohydrate, honey, invert sugar, fructose, saccharine not exceeding 100 parts per million, fruit and vegetable extractives (less than 10% on weight to weight basis), permitted flavouring, colouring matters, vitamins, preservatives, emulsifying and stabilizing agents, citric acid, tartaric acid, phosphoric acid, malic acid, salts of sodium, calcium and magnesium, caffeine not exceeding 200 parts per million and edible gums and gelatine; and</u></p> <p>(iv) shall contain not less than 5% total sugars of the net contents weight to weight.]</p>
<u>Net weight may or may not be declared.</u>			

**Amended as follows: shown at 6D (Carbonated Non - Fruit Drink or Beverage)**

**PART II (E)**

**[Specifications for sweetened aerated water with 10 per cent or more of fruit juice or fruit pulp]**





<u>Products</u>	<u>Varieties</u>	<u>Total soluble solids</u>	<u>Minimum percentage of fruit and vegetable content</u>	<u>Definition and general characteristics</u>
<u>Sweetened aerated water containing fruit juice or bits</u>	<u>Sweetened aerated water with fruit vegetable juice or pulp or bits</u>	<u>Minimum 10%</u>	<u>10% in form of fruit juice or pulp or bits or other combination of any fruit.</u>	<u>Aerated water means potable water impregnated with carbon dioxide under pressure in properly sealed container and may contain any of the following singly or in combination: -  <u>Sugar liquid glucose, dextrose honey, monohydrate, invert sugar</u></u>

				<u>Fructose, fruit and vegetable extractives (more than 10% on weight to weight basis) and permitted flavouring, colouring matter, vitamins, preservatives, emulsifying and stabilizing agents, citric acid, tartaric acid, lactic acid, ascorbic acid, mallic acid, salts of sodium, calcium and magnesium and edible gums.</u>
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Net weight of contents may or may not be declared on the containers.]



Amended as follows: shown at 6C4 (Carbonated Fruit Drink or Fruit Beverage)

**PART III**

**Specifications for barley waters (Lemon, Orange, Grape fruit, etc.)**

<b><u>Product</u></b>	<b><u>Variety</u></b>	<b><u>Special Characteristics</u></b>			<b><u>General Characteristics</u></b>
		<b><u>Minimum Percentage of fruit juice in final product</u></b>	<b><u>Minimum percentage of total soluble solids in the final product [weight over weight]</u></b>	<b><u>Minimum percentage of barley starch in the final product</u></b>	
<u>Barley waters</u>	<u>Any suitable variety</u>	<u>25</u>	<u>30</u>	<u>0.25</u>	<u>Barley of good quality free from insect attack of fungal disease shall be used. Fruit juice shall be derived from sound fresh fruit free from insect or fungal attack or any other blemish affecting the quality of the fruit. It shall be free from the pieces of skin, bits of coarse tissue and any extraneous matter. [The only substances that may be added are water, sugar, dextrose, invert sugar or liquid glucose, peel oil, flavouring matter, common salt, ascorbic acid, citric acid in sufficient quantity</u>



					to bring the acidity of the finished product up to maximum of 2.5 per cent as anhydrous citric acid and permitted colours and preservatives]
					The finished product shall have a good flavour characteristic of fruit used and free from burnt or any other objectionable taints or flavours. It shall be of good keeping quality and shall show no sign of fermentation.

**Amended as follows:** Shown at 6C4 (specification remains the same)

**PART IV**

**Specifications for [non-fruit] syrups [Ginger Cocktail, Ginger beer, Ginger Ale] and sharbats**

<b><u>Product</u></b>	<b><u>Variety</u></b>	<b><u>Special Characteristics</u></b>	<b><u>General Characteristics</u></b>
		<b><u>Minimum percentage of total soluble solids in the final products [weight over weight]</u></b>	
<b><u>[Non-fruit] syrup and sharbats</u></b>	<b><u>Any kind prepared from harmless herb, flowers or essences</u></b>	<b><u>[65]</u></b>	<b><u>[The only substances that may be added are water, citric acid, harmless herbs, drugs, flowers, essence [juices (at least 10 percent) sugar dextrose, invert sugar, or liquid glucose, permitted colours and preservatives]. The finished product shall have a good and pleasant taste and flavour, truly characteristic of the flavouring</u></b>



			<u>material used and be free from burnt or any other objectionable taints and flavour and crystallization of sugar. It shall be of good keeping quality and should show no sign of fermentation. No artificial sweetening agent shall be used.</u>
<u>[Ginger cocktail, Ginger beer, Ginger ale.</u>	<u>Any kind prepared from ginger or ginger essences</u>	<u>30</u>	<u>Ditto]</u>

The container of [non-fruit] syrups will not bear any label, which will lead the consumer into believing that it is genuine fruit product. In addition the label will have the word [non-fruit] distinctly and clearly displayed on it. [If the product declared as [Non-fruit] Syrup does not contain fruit juice prescribed as specified above, the product will be clearly marked as ‘Contains No Fruit Juice’]. Rose, Khus, Kewra, Sandal and other such syrups may not be declared as [Non-fruit] but shall not bear picture of fruits on the label.

**Amended as follows:**                      **Shown at 6D (specification remains the same)**

#### **PART V**

#### **Specifications for bottled and canned fruits and vegetables.**

<b><u>Product</u></b>	<b><u>Variety</u></b>	<b><u>Special Characteristic</u></b>	<b><u>General Characteristics</u></b>
<b><u>1</u></b>	<b><u>2</u></b>	<b><u>3</u></b>	<b><u>4</u></b>
<u>Bottled or canned fruits.</u>	<u>Any fruits of suitable variety</u>	<u>The headspace in the can shall not be more than [1.6 centimeters]. The drained weight or fruit shall not be less than 50% of the net weight of the contents (except in the case of berry fruit where this limit will be 40%). Drained weight shall be determined by draining the contents for two minutes on a sieve of [dimensions] 20.3 x 20.3 centimeters having 8 meshes per 2.5 centimeters].</u>	<u>The fresh fruit to be canned shall be approaching maturity and it shall be practically free from blemish and shall not have stalks, leaves and other extraneous matter. Where fruit is required to be cut it shall be cut in halves, quarters, or cubes or pieces, reasonably uniform in size. The only substances that may be added are fruits, sugar, invert sugar, citric acid and water. After processing the fruit shall be firm and the covering liquid clear. The product shall not show any positive pressure at sea level and shall not show any sign of bacterial growth when incubated at 37<sup>0</sup> C for one week. No preservative shall be added. No artificial colouring matter shall be present except in the case of</u>



			cherries and straw berries where [permitted colour] may be added. [The finished product shall have the characteristic taste of the original material and shall be reasonably free from disintegration, damage form bruises and shall be uniformly prepared.]
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<u>Bottled or canned vegetables</u>	<u>Any vegetable of suitable variety</u>	<u>The head space in the can shall not be more than [1.6 centimeters.] the drained weight of the vegetables shall not be less than 55% of the net weight of the contents (except in the case of canned tomato where this limit will be 50%). Drained weight shall be determined by draining the contents for two minutes on a sieve of [dimensions] [20.3 x 20.3 centimeters having 8 meshes per 2.5 centimeters].</u>	<u>The Vegetables shall be reasonably fresh, tender, of good colour and flavour and shall be free from pods, stalks, detached skin, extraneous matter like woody fibre, roots, etc. and shall be practically free from blemishes. The only substances that may be added are vegetables, sugar, salt, water, oil or fat, spices, sauce, citric acid and soluble calcium salt. The product shall not show any sign of bacterial growth when incubated at 37<sup>0</sup> C and 55<sup>0</sup> C for one week. No preservative shall be used. No artificial colouring matter shall be present except in case of peas where [permitted colour] may be added. [The finished product shall have the characteristic taste of the original material and shall be reasonably free from disintegration, damage from bruises and shall be uniformly prepared].</u>
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Peas or any other products which have been dried or otherwise processed before canning must be described as processed and may not be described as ‘Green Fresh’ or garden product. It shall be clearly marked as prepared from dried raw material. Dehydrated and dry fruits if canned shall be clearly marked as prepared from dried raw material.

**Amended as follows:**

**Shown Canned/ bottled fruit at 6A1and Canned/ bottled vegetable at 6B1**



**PART VI**  
**Specifications for Jams and Fruit Cheese**

<b><u>Product</u></b>	<b><u>Kind and variety of fruit.</u></b>	<b><u>[Minimum percentage of prepared fruit in the final product.]</u></b>	<b><u>[Minimum percentage of soluble solids in the final product weight over weight</u></b>	<b><u>Special Characteristic</u></b>	<b><u>General Characteristic</u></b>
Jams and fruit cheese	Any fruit of suitable variety	45 In case of raspberry and strawberry Jams 25.	68]	The finished products shall have a [heavy] consistency.	It may be single or mixed fruit jam. The fruit used shall be mature, fresh, sound, clean and free from fermentation and mould. Dry or canned fruit, preserved pulp or juice may be used. Pectin derived from any fruit may be added when necessary. The only substances that may be added are sugar, dextrose, invert sugar or liquid glucose, flavouring matter, ascorbic acid, citric acid, permitted colours and preservatives. It shall have the flavour of the original fruit and shall be free from burnt or other objectionable flavour, crystallization and mould growth and shall show no sign of fermentation. If packed in cans, it shall not show any positive pressure at sea level. No artificial sweetening matter shall be added.



When dry fruit is used it shall be clearly declared on the label.

**Amended as follows:**                      **Shown at 6H1**

**PART VII**  
**Specifications for Fruit Jellies and Marmalades**

<b><u>Product</u></b>	<b><u>Kind and variety of fruit.</u></b>	<b><u>[Minimum percentage of prepared fruit in the final product.]</u></b>	<b><u>[Minimum percentage of soluble solids in the final product weight over weight</u></b>	<b><u>Special Characteristic</u></b>	<b><u>General Characteristic</u></b>
<u>Fruit Jelly and marmalade</u>	<u>Any fruit of suitable variety</u>	<u>45</u>	<u>65</u>	<u>Fruit jellies shall be made from clear strained fruits extract prepared by boiling the fruit with water. Marmalades shall be made either from citrus fruits prepared by boiling the fruit with water or shall be made from fruit juice or pulp. Marmalades shall have suspended slices of peel.</u>	<u>The fruit used shall be sound, clean and free from fermentation and mould. The finished product shall be reasonably uniform and shall be of good keeping quality and attractive colour. [The only substances that may be added are sugar, dextrose, invert sugar or liquid glucose, ascorbic acid, citric acid, permitted colours and preservatives.] Fruit jelly shall be a product of gelatinous consistency prepared by boiling strained fruit extract with sugar. It shall be clear sparkling transparent and of an attractive colour. it should not be syrupy, sticky or gummy and should retain the flavour and aroma of the original fruit. No artificial sweetening matter shall be added. [It shall</u>



					<u>show no sign of fermentation.]</u>
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The jelly made from sugar and chemical pectin shall be clearly declared as [Non-fruit] Jelly. [The lable on the container of the [non-fruit] jelly shall bear conspicuously the following, namely: -

(1) [NON-FRUT] JELLY – Flavoured (incorporating the name of the concerned flavour in the blank); and

(2) The product is not made out of any fruit].

**Amended as follows:                      Shown at 6H2 (Fruit Jelly) and 6H3 (Citrus Marmalade)**





**PART VIII**  
**Specifications for Candied and Crystallized or 'Glaced' Fruit and Peel**

<u>Product</u>	<u>Kind and variety</u>	<u>Special Characteristics</u>		<u>General Characteristics</u>
		<u>Percentage of total sugar [weight over weight]</u>	<u>Percentage of reducing sugar to total sugar</u>	<u>General Characteristics</u>
<u>Candied and crystallized or glazed fruit and peel.</u>	<u>Any fruit of suitable variety</u>	<u>Not less than 70</u>	<u>Not less than [25].</u>	<u>Candied fruit or peel shall be derived from firm ripe or a slightly mature fruit practically free from insect or fungal attack or any other blemish affecting the quality of the fruit. [The only substances that may be added are sugar, dextrose, invert sugar or liquid glucose, soluble calcium salts, flavouring matter, citric acid, permitted colours and preservatives.] 'Glaced' fruit or peel shall be derived from candied product coating with a thin transparent layer of heavy syrup with or without pectine which had dried to a more or less firm texture on the fruit. Crystallized fruit or peel shall be derived from candied product by coating with pure white crystallized sugar or by drying the syrup on wet candied fruit. The finished product shall be translucent and not hard or granular. It shall have a good flavour and shall be free from burnt or any other objectionable</u>



				flavour.
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**Amended as follows:**

**Shown at 6I2 (Specification remains the same)**

**PART IX**  
**Specifications for Preserves**

<b><u>Product</u></b>	<b><u>Kind and variety of fruit</u></b>	<b><u>Minimum percentage of fruit portion in final product</u></b>	<b><u>Minimum percentage of total soluble solids in the product [weight over weight]</u></b>	<b><u>General Characteristics</u></b>
Preserves	Any fruit or suitable variety	55	68	It may be single or mixed preserve but fruit or vegetable used shall be mature, fresh, sound and clean. [The only substances that may be added are sugar, dextrose, invert sugar or liquid glucose, flavouring matter, citric acid, ascorbic acid, permitted colours and preservatives.] The fruit shall retain form and shall be permitted with the syrup without shrivelling of the individual pieces. It shall be of good keeping quality and attractive colour and it shall be free from burnt and other objectionable flavour, crystallization and mould growth. The product shall not show any fermentation when examined. When packed in cans, it shall show no positive pressure at sea level.

When packed in sanitary top cans, the content shall not be less than 85% of the total space of the can.

**Amended as follows:**

**Shown at 6I1**

**PART X**  
**Specifications for Fruit Chutney**

<b><u>Product</u></b>	<b><u>Variety</u></b>	<b><u>Special Characteristics</u></b>	<b><u>Mould Count</u></b>	<b><u>General Characteristics</u></b>



		<u>Minimum percentage of fruit in the final product</u>	<u>Minimum percentage of total soluble solids in the product [weight over weight]</u>		
<u>Fruit Chutney</u>	<u>Any fruit of suitable variety</u>	<u>40</u>	<u>50</u>	<u>Not in excess of 40% of the field examined.</u>	<u>The product shall be derived from fruit free insect or fungal attack. All ingredients used in the preparation of chutney shall be thoroughly clean. [The only substances that may be added are fruit, fruit pulp, raisins, dry fruit, species, salt sugar, onion, garlic, vinegar, acetic acid and [permitted colours and preservatives.] it shall be of good keeping quality and shall show no sign of fermentation when incubated at 28-30<sup>0</sup> C and 37<sup>0</sup> C. [The acidity and ash content shall not exceed 2% and 5% respectively.] [The ash insoluble in hydro-chloric, acid shall not exceed 0.5 per cent. w/w. 55.]</u>

When it is declared as fruit Chutneys, the names of fruits may not be declared on the label. Any fruit when calculated in combination with raisins and dry fruits if used in excess of 5% of 40% fruit content in mango chutney or other chutney shall be declared on the label.

[The ash insoluble in hydrochloric acid shall not exceed 0.5 per cent. w/w. 55.]

**Amended as follows:**                      **Shown at 6F1 (Fruit and Vegetable Chutney)**

PART XI  
Specifications for Tomato Juice and [Soups].



<u>Product</u>	<u>Variety</u>	<u>[Minimum percentage of total soluble solids weight over weight free of salt.]</u>	<u>Special Characteristics</u> <u>Mould count</u>	<u>General Characteristics</u>
Tomato juice and soup	Any suitable variety of tomato	Tomato juice 5 Tomato Soup 7.	Not in excess of 30% of the field examined.	Tomato juice shall be liquid product derived from sound fresh an fully ripe tomatoes practically free from insect and fungal attack or any other blemish affecting the quality of the fruit and may contain finely divided insoluble solids from the flesh of tomatoes. It shall be free from pieces of skin, seeds, bits of coarse tissue and any extraneous matter. [The only substances that may be added are salt, not in excess of 1.5% by weight, sugar dextrose, malic acid, ascorbic acid, citric acid and permitted colours). In tomato soup the only soup the only substances that may be added are spices, sugar, salt, starch, butter and milk solids. The finished product shall have a good flavour characteristic of tomato and be free from burnt or any other objectionable flavour. It shall be of good keeping quality and shall show no sign of fermentation when incubated at 37° C for 7 days. When canned it shall not show any positive pressure at sea level.

**Amended as follows:**

**Shown at 6C5 (Vegetable Juice / Pulp /Puree) and 6B3 (Canned / Bottled Vegetable Soup)**

**PART XI-A**

**Specifications for Vegetable Soups**

<u>Product</u>	<u>Variety</u>	<u>General Characteristics</u>



Vegetable soup	Any suitable variety of vegetable or combination of vegetables.	The products shall be made from vegetable free from insect or fungal attack. All the ingredients used in the preparation of the soup shall be thoroughly cleaned. The only substances that may be added are vegetable pulp vegetables, milk solids, starch, rice, wheat, cereals and their extruded products, butter, onion, permitted colours, soup, flavour and spices. It shall be of good keeping quality and shall show no sign of fermentation when incubated at 37 <sup>0</sup> C and 55 <sup>0</sup> C for one week. No preservative shall be used. The finished product shall have the flavour characteristic of the vegetable from which soup is made. The soup shall have uniform consistency.
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**Amended as follows:**

**Shown at 6B3 (Canned / Bottled Vegetable Soup)**

## **PART XII**

### **Specifications for Tomato Puree and Paste**

<b><u>Product</u></b>	<b><u>Variety</u></b>	<b><u>Special Characteristics</u></b>		<b><u>General Characteristics</u></b>
		<b><u>Mould count</u></b>	<b><u>Minimum percentage of soluble solids [weight over weight free of salt</u></b>	
<b><u>1</u></b>	<b><u>2</u></b>	<b><u>3</u></b>	<b><u>4</u></b>	<b><u>5</u></b>
Tomato Puree and Paste	Any suitable variety of tomato	Not in excess of 60% of the field examined.	Tomato Puree 9% Tomato Paste 25%	The product shall be derived from sound, fresh and fully ripe tomatoes practically free from insect or fungal attack or any other blemish affecting the quality of the fruit. Properly prepared and strained tomatoes shall be free from skin and seeds. [The only substances that may be added are common salt, citric acid, ascorbic acid, spices, permitted colours, preservatives. The finished product shall have a good flavour characteristic of the tomato and be free from burnt or any other



				objectionable flavour. It shall be of good keeping quality and shall show no sign of fermentation when incubated at 37 <sup>0</sup> C for seven days. When canned it shall not show any positive pressure at sea level.
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[Percentage of total soluble solids shall be declared on the labels.]

**Amended as follows:**                      **Shown at 6B8 (Specification remains the same)**

**PART XIII**  
**Specification for Tomato Ketchup [and Sauce]**

<u>Product</u>	<u>Variety</u>	<u>[Minimum] acidity as acetic acid</u>	<u>Minimum total soluble solids [weight over weight]</u>	<u>Special Characteristics</u>		<u>Bacteria</u>	<u>General Characteristics</u>
				<u>Mould count</u>	<u>Yeast and spores</u>		
Tomato Ketchup	Any suitable variety of tomato	[1.0%]	25%	Not in excess of 40 per of the fields examined	Not in excess of 125 per 1/60 c.m.m.	Not in excess of 100 million per c.c.	The products shall be derived only from sound and wholesome tomatoes practically free from insect or fungal or any other blemish affecting the quality of the fruit. Skins and seeds shall be excluded. [The only substances that may be added are spices, salt, sugar, vinegar acetic acid, onion, garlic, and preservatives]. It shall not contain any other fruit



							or vegetable substances.
							The finished product shall have good flavour and shall be free from burnt or any other objectionable flavours. It shall be of good keeping quality and shall show no sign of fermentation when incubated at [28-30°C and 37°C.]

**Amended as follows:**                      **Shown at 6G1**

**PART XIII (A)**

**[Specifications for Sauces other than Soya Bean Sauce] [and Tomato Sauce]**

<b><u>Product</u></b>	<b><u>Kind and variety</u></b>	<b><u>Special Characteristics</u></b>			<b><u>Minimum per centage of acidity as acetic acid</u></b>	<b><u>[Minimum total soluble solids weight over weight]</u></b>	<b><u>General Characteristics</u></b>
		<b><u>Mould count</u></b>	<b><u>Yeast and spores</u></b>	<b><u>Bacteria</u></b>			
Sauce	Any suitable kind and variety of fruit or vegetable	Not in excess of 40% of the field examined.	Not in excess of 125 per 1/6 c.m.m.	Not in excess of 100 million per c.c.	1.2	[15%]	The product shall be derived from whole, some fruit and vegetables which shall be practically free from insect or



	<u>e.</u>						<u>fungal attack or blemishes effecting quality of fruit. [The only substances that may be added are fruit may be added are fruit, vegetable pulp, juice, dried fruits, sugar, [jaggery], spices, salt, vinegar, citric, acetic acid, malic acid, onion, garlic,</u>
							<u>Flavouring materials, permitted colours, [other than red or any shade of red colour], preservatives. The finished product shall have good flavour and shall be free from burnt or other objectionable flavours. It shall be of good keeping quality and shall show no sign of fermentation when incubated at [28-30°C and 37°C.]</u>

[The percentage of the various fruits and vegetables used in the sauce shall be declared [on the label and the label shall not bear any picture of tomatoes.]]

**Amended as follows:**                      **Shown at 6G2 (Fruit and Vegetable Sauces)**





**PART XIII (B)**

**Specifications for Soya Bean Sauce**

<b><u>Product</u></b>	<b><u>Kin d and vari ety</u></b>	<b><u>Minimu m % of acidity as acetic acid weight over weight</u></b>	<b><u>Minimum soluble total solids weight over weight</u></b>	<b><u>Special Characteristics</u></b>			<b><u>General Characteristics</u></b>
				<b><u>Mould count</u></b>	<b><u>Yeast and spores</u></b>	<b><u>Bacteria</u></b>	
<u>Soya Bean sauce.</u>	<u>Any suita ble varie ty of Soya Bean</u>	<u>0.60%</u>	<u>25%</u>	<u>Not in excess of 40% of the fields examined</u>	<u>Not in excess of 125 per 1/60 c.m.m.</u>	<u>Not in excess of 100 million per c.c.</u>	<u>The product shall be derived only from sound and wholesome Soya beans free from insect or fungal or any other blemish affecting the quality of Soya Bean. The only substances that may be added are spices, salt, sugar, vinegar, acetic acid, onion, garlic,</u>
							<u>Permitted colours and preservatives. It shall not contain any other fruit or vegetable substances. The finished product shall have good flavour and shall be free from burnt or any other objectionable flavours. It shall be of good keeping quality and shall show no sign of fermentation when incubated at 28- 30<sup>0</sup>C and 37<sup>0</sup>C.</u>



Amended as follows:            Shown at 6G3

**PART XIII (C)**  
**Specifications for Tamarind Concentrate**

<b><u>Product</u></b>	<b><u>Minimum percentage of acidity as tartaric acid</u></b>	<b><u>Ash soluble in acid</u></b>	<b><u>Total soluble solids</u></b>	<b><u>Freedom from moulds insects etc.</u></b>	<b><u>General Characteristics</u></b>
Tamarind concentrate	9%	Not exceeding 0.8%	Not less than 65%	Free from moulds living or dead insects fragments and rodent contamination	The product shall be derived from sound tamarind. The tamarind extract shall be properly strained and be free from pieces of stalk and fibrous matters. The concentrate shall have flavour characteristic of tamarind and be free from burnt and any other objectionable flavour and taste. It shall be of good keeping quality. Canned tamarind concentrate shall not show any positive pressure at sea level.]

Amended as follows:            Shown at 6A8

**PART XIV**  
**Specifications for Brewed and [Non-fruit] Vinegar**



<u>Product</u>	<u>Variety</u>	<u>Special Characteristics</u>	<u>General Characteristics</u>
		<u>Minimum percentage of acidity in final product</u>	
<u>Brewed and [Non-fruit] Vinegar</u>	<u>Any suitable medium such as fruits, malt, molasses, sugarcane juice, etc.</u>	<u>[Brewed Vinegar 3.75 gms. Of acetic acid per 100 ml. [Non-fruit] Vinegar- 3.75 gms. Of acetic acid per 100 ml.</u>	<u>[Brewed Vinegar means a liquid derived from alcoholic and acetous fermentation of any suitable medium such as fruits, malt, molasses, sugarcane juice, etc.</u> <u>Brewed vinegar shall conform to the following standards.</u> <ol style="list-style-type: none"> <li>1. <u>It shall contain at least 3.75 grams of acetic acid per 100 ml.</u></li> <li>2. <u>It shall contain at least 1.5 per cent w/v of total solids and 0.18 per cent ash.</u></li> <li>3. <u>It shall not contain (i) sulphuric acid or any other mineral acid. (ii) lead or copper (iii) [arsenic in amounts] exceeding 1.5 parts per million, and (iv) any foreign substance or colouring matter except caramel.</u></li> <li>4. <u>Malt Vinegar in addition shall have at least 0.05 percent, of Phosphorous pentoxide (P<sub>2</sub>O<sub>2</sub>) and 0.04 percent of nitrogen.</u></li> </ol> <u>Brewed Vinegar shall not be fortified with acetic acid.]</u>

The kind of medium of preparing brewed vinegar shall be declared on the label. [Non-fruit] vinegar shall be distinctly labeled as [Non-fruit] Vinegar and shall state on label “prepared from acetic acid”.

**Amended as follows:**

**Shown at 6L1 (Brewed Vinegar) and 6L2 (Non-Fruit Vinegar) (Specification remains the same)**



**PART XV**  
**Specifications for Pickles in Vinegar**

<b><u>Product</u></b>	<b><u>Variety</u></b>	<b><u>Special Characteristics</u></b>	<b><u>General Characteristics</u></b>
		<b><u>Minimum percentage of acidity in fluid portion as acetic acid</u></b>	
<u>Pickles in vinegar</u>	<u>Any vegetable of suitable variety</u>	<u>[Not less than 2 grams per 100 c.c. as minimum percentage of acidity of fluid portion as acetic acid.]</u>	<u>The vegetables used in the preparation of pickles shall be wholesome. They shall be practically free from fungal or insect attack. All the ingredients used shall be thoroughly clean and free from extraneous matter. The fluid portion of the pickles, which shall be vinegar, shall constitute not more than 1/3 of the total content and shall not contain any ingredient other than spices, [salt] and sugar. The pickles shall be free from added copper, mineral acids, alum or harmful colours and shall show no sign of fermentation. The product shall be reasonably free from sediment.</u>

When more than one vegetables are used the product shall be labeled as “Mixed Pickles”.

**PART XVI**  
**Specifications for Pickles in Citrus Juice or in Brine**

<b><u>Product</u></b>	<b><u>Variety</u></b>	<b><u>Minimum Percentage of Salt</u></b>	<b><u>Special Characteristics</u></b>	<b><u>General Characteristics</u></b>
<u>Pickles in citrus juice or in brine</u>	<u>Any fruit or vegetable of suitable variety</u>	<u>12%</u>	<u>Incase _____ of pickles in citrus juice, citric acid shall not be less than [1.2%]. Only citrus fruit juices shall be used.</u>	<u>The vegetables and fruits used in the preparation of pickles shall be wholesome. They shall be free from fungal or insect attack or any type of rot. All the ingredients used shall be thoroughly clean and free from extraneous matter. Only substances that may be added are spices, salt, jaggery,</u>



				onions, garlic, [benzoic acid] and soluble calcium salts, pickles shall be free from added salts, copper, alum [or mineral acids]
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**PART XVII**  
**Specifications for Oil Pickle**

<b><u>Product</u></b>	<b><u>Variety</u></b>	<b><u>Oil</u></b>	<b><u>General Characteristics</u></b>
Oil Pickles	Any fruit or vegetable of suitable variety	Any edible vegetable oil like rapeseed, mustard, olive oil, etc.	[The fruits and vegetables used in the preparation shall be wholesome and shall be free from fungal or insect attack. The only substances that may be added are spices, salt, oils, sugar, jaggery, onions, garlic, acetic acid, turmeric, condiments.] All the ingredients used shall be thoroughly clean and free from extraneous matter. The pickles shall be of pleasant taste and flavour, and be free from added copper, alum [or mineral acids].

*Kind of fruit or vegetable used shall be declared on the label.*

**[PART XVII-A**  
**Specifications for pickles**

Pickle means the preparation made from sound, clean, raw or sufficiently matured fruit or vegetable or a combination of both, free from insect damage or fungus attack, preserved in Salt, acid, sugar or any combination of the three. Pickle may contain onion, garlic, sugar, jaggery, edible oils, spices, spice extract or oil of turmeric, pepper, chillies, fenugreek, mustard seeds or powder, vegetable ingredients, asafoetida, Bengal gram, lime juice, lemon juice, green chillies, vinegar or acetic acid, citric acid, dry fruit including resins and fruit nuts. The pickles shall be free from added copper, mineral acid, alum and shall show no sign of fermentation. The product shall be free from sediments. The pickles shall be of pleasant taste and flavour.]

**PART XV, PART XVI, PART XVII, and PART XVIII,**

**Amended as follows: Shown at 6E ((Pickled Fruits and Vegetables)**



**PART XVIII**  
**Specifications for Sun Dried and Dehydrated Fruits**

<b><u>Product</u></b>	<b><u>Variety</u></b>	<b><u>General Characteristics</u></b>
<u>Sub dried and dehydrated fruits.</u>	<u>Any fruit of suitable variety.</u>	<u>The fruit used for drying shall be clean, wholesome and shall be practically free from insect or fungal attack. [The dried or dehydrated fruits may contain permitted preservatives.] The product shall be free from visible mould, insect or larvae. [In dehydrated and sun dried fruits, the moisture content shall not exceed 20% and 24% W/W respectively].</u>

The kind of dried fruit packed in the container shall be declared on the label.

**Amended as follows: Shown at 6A5**

**PART XVIII (A)**  
**Specifications for Mango Cereal Flakes**

<b><u>Product</u></b>	<b><u>Variety</u></b>	<b><u>Characteristics</u></b>	<b><u>General Characteristics</u></b>
<u>Mango Cereal Flakes.</u>	<u>Fruit of suitable variety.</u>	<u>Moisture not more than 2.5 per cent. Acid insoluble ash not exceeding 0.5 per cent. Protein not less than 3.0 per cent. Starch not exceeding 25.0 per cent.</u>	<u>The product shall be prepared from clean wholesome mangoes free from insect or fungal attack. The only substances that may be added are fruit pulp, wheat starch, sucrose, glucose, sodium bicarbonate and pectin. The product shall have taste and flavour characteristic of the fruit. The product shall be crisp but not tough or leathery. NO [non-fruit] flavouring agents shall be added.</u>

Variety of fruit used and the composition shall be declared on the label.

**Amended as follows: Shown at 6K1 (Fruit and Vegetable Cereal Flakes)**



**PART XIX**  
**Specifications for Sun-dried and dehydrated vegetable**

<b><u>Product</u></b>	<b><u>Variety</u></b>	<b><u>Special Characteristics</u></b>	<b><u>General Characteristics</u></b>
Sun-dried and dehydrated vegetables.	Any vegetable of suitable variety.	Ash insoluble in hydrochloric acid shall be not more than 0.5%.	The product shall be prepared from wholesome vegetables free from blight, dis-colouration or fungi. The only edible portion of the vegetable shall be used and it shall be free from stalks, peels, stems and extraneous leaves. [The dried vegetable may contain permitted preservative.]. The finished product shall be of good edible quality and shall reasonably reconstitute to its original shape and quality on boiling from fifteen minutes to an hour. The finished product shall be free from visible mould insect or larvae.

Kind of dry vegetable shall be declared on the label.

**Amended as follows: Shown at 6B4**



**PART XIX-A**  
***Specifications for Dehydrated Onions***

<u>Product</u>	<u>Variety</u>	<u>Special Characteristics</u>			<u>General Characteristics</u>
		<u>Moisture % W/W</u>	<u>Total Ash % W/W</u>	<u>Acid insoluble Ash % W/W</u>	
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
<u>Dehydrated Onions except onion powder</u>	<u>Any suitable variety</u>	<u>8</u>	<u>5%</u>	<u>0.5</u>	<u>The dehydrated onions shall be the product prepared from clean, sound bulbs and suitable varieties of onion, free from blemish and disease, after proper washing, peeling, trimming and slicing and dehydrating in a manner which ensures effective preservation of colour, flavour, texture and food value. The dehydrated onions shall have the characteristic colour and marked pungent flavour of the variety used. It shall be free from discolouration and</u>





					<p>must, rancid, scorched or other objectionable flavour or odour. When in the form of powder, it shall be free flowing and free from agglomerates. The product shall be free from moulds living or dead, insects and insect fragments and rodent contamination. The total extraneous matters including black, brown or dark brown pieces, outer stain, outer root base, sediment or sediment attached to onion seed, stems and foreign matter, such as other vegetables shall not exceed 3% by weight. It shall be free from any preservatives, bleaching substances, artificial colouring matter or flavouring agents. The dehydrated onion flakes after steeping in water for four hours, shall reconstitute to form a product approximately to raw freshly peeled and cut onion of good quality. When 30 gms. of dehydrated onions are cooked with 250 ml. of boiling 1% sodium chloride solution for fifteen minutes, the dehydrated onion shall reconstitute to crisp product free from toughness or mustiness having the typical flavour, colour and odour of cooked onions. The dehydrated ratio i.e. ratio of increase in weight after cooking and draining off excess liquid to its weight before cooking shall be less than 5:1.]</p>
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**Amended as follows: Shown at 6B4**

**PART XX**

1. Fruit and vegetable products shall be packed in such suitable containers as are described below and all containers shall be securely packed and sealed -



(a) Canned fruits, juices and vegetables – Sanitary top cans made from suitable kind of tin plate shall be used for canning fruits, juices, and vegetables.

(b) Bottled fruits, juices and vegetables – Bottles and jars capable of giving hermetic seal shall be used.

(c) Juices, squashes, crush, cordials, syrups, barley waters and other beverages shall be packed in clean bottles and securely sealed. These products when frozen and sold in the form of ice shall be packed in suitable cartons. Juices or pulp may be packed in wooden barrels when sulphited.

(d) Preserves, jams, jellies and marmalades – New cans, new cannisters, clean jars, bottles, chinaware jars or aluminium containers may be used for packing these products and it shall be securely sealed.

(e) (i) Pickles – Clean bottles, jars, wooden casks, tin containers covered from inside with polyethylene lining of minimum 250 guage or suitably lacquered cans shall be used.

(ii) Tomato ketchup and sauces – Clean bottles shall be used. If acidity does not exceed 0.5% as acetic acid, open top sanitary cans may also be used.

(iii) Vinegar and chutney – Clean bottles or wooden casks may be used.]

(f) Candied fruits and peels and dried fruits, and vegetables – Paper bags, cardboard or wooden boxes, new tins, bottles, jars, aluminium or other suitable approved containers shall be used.

(g) The fruits and vegetable products can be packed in all aseptic and flexible packaging material having food grade quality conforming to the specifications laid down by Bureau of Indian Standards (BIS).]

2. Following particulars shall be clearly marked on the containers: -

(a) Kind and variety of fruits.

(b) Nature of the product, viz., juice, squash, marmalade, etc.

(c) Net weight or volume of the contents (variation in the net content may be 5% in case of bottled fruit products).]



[(d) Name and address of the manufacturer or brand owner.]

[(e) Where any permitted preservative and / or colouring agent other than natural colour is added, a statement to the effect that it contains permitted preservatives and /or colouring agent other than natural colour.]

3. The manufacturer of fruit products licensed under this Order may export the products, -

(i) without indicating the name of the place of manufacture provided that a declaration “Made in India” or “Produce of India” along with the licence number issued to them under this Order is indicated properly on the label affixed to the container of such fruit product or vegetable product;

(ii) without indicating the name of the place of manufacture or a declaration “Made in India” or “Produce of India” or licence number, in case the importer gives a certificate to the effect that these declarations could be written either on the invoice or packing material or both.]

**Amended as follows: Shown at 6V (Packaging of Fruit and Vegetable Product)**

**[PART XXI]**

**Limits of poisonous metals in fruit products**

No fruit products specified in column 2 of the table below shall contain any poisonous metal specified in excess of the quantity given column 3 of the said table.

<b><u>Name of the poisonous metal</u></b>	<b><u>Name of the product</u></b>	<b><u>Parts per million by weight</u></b>
1. Lead	<u>(i) Concentrated soft drinks (but not including concentrates used in the manufacture of soft drinks)</u>	<u>0.5</u>
	<u>(ii) Fruit and vegetable juice (including tomato juice, but not including lime juice and lemon juice.)</u>	<u>1.0</u>
	<u>(iii) Concentrates used in the manufacture of soft drinks, lime juice and lemon juice</u>	<u>2.0</u>
	<u>[(iiia) Soft drinks excluding concentrates</u>	<u>Nil]</u>
	<u>(iv) Dried or dehydrated vegetables (other than onions)</u>	<u>2.5</u>
	<u>(v) Dehydrated onions</u>	<u>10.0 on the dry matter</u>
	<u>(vi) Fruit products not specified</u>	<u>5.0</u>
	<u>(iii) Tomato Ketchup on the dried total solids</u>	<u>50.0</u>



	<u>(iv) Tomato puree, paste, powder, juice and cocktails</u>	<u>100.0 on the dried tomato solids</u>
	<u>(v) Fruit products not specified</u>	<u>30.0</u>
<u>3. Arsenic</u>	<u>(i) Soft drinks intended for consumption after dilution</u>	<u>Arsenic - 0.5</u>
	<u>(ii) Dehydrated onions</u>	<u>Arsenic- 2.0</u> <u>Arsenious oxide - 2.6</u>
	<u>(iii) Fruit products not specified</u>	<u>[1.00 p.p.m]</u>
<u>4. Tin</u>	<u>(i) Processed and canned products</u>	<u>250</u>
	<u>[(ia) Soft drinks excluding concentrates</u>	<u>100.00</u>
	<u>(ii) Fruit products not specified</u>	<u>250</u>
<u>5. Zinc</u>	<u>(i) Ready to drink beverages</u>	<u>5.0</u>
	<u>[(ii) Fruit products covered under this Order</u>	<u>19 p.p.m.]]</u>

**Amended as follows: Shown at Appendix (A)**

#### **[PART XXII**

#### **List of permissible Harmless Food Colours**

1. Natural colouring matter, which may be used: -

The following natural colouring principles whether isolated from natural colours or produced synthetically may be used in or upon any [fruit products]: -

- (a) Cochineal or Carmine.
- (b) Carotin and Carotenoids
- (c) Chlorophyll.
- (d) Lactoflavin
- (e) Caramel
- (f) Annatto
- (g) Ratanjot
- (h) Saffron
- (i) Curcumin



[(2) Coal tar dyes which may be used – No Coal tar dyes or a mixture thereof except the following shall be used in fruit products: -

<u>Colour</u>	<u>Common name</u>	<u>Colour Index</u>	<u>Chemicals class</u>
		(1956)	
Red	Ponceau 4R	16255	Azo
	Carmoisine	14720	”
	Fast Red E	16045	”
	Amaranth	16185	”
	Erythrosine	45430	Xanthene
Yellow	Tartarazine	19140	Pyrazolone
	Sunset Yellow FCF	15985	Azo
Blue	Indigo Carmine	73015	Indigoid
	Brilliant blue FCF	42090	Triary Imethane
Green	Green S	44090	-do-
	Fast Green FCF	42033	-do-

(3) Dyes when used in fruit products shall be pure and free from all harmful impurities.

The maximum limit of any permitted coal tar colours or mixture of permitted coal tar colour which may be added to any fruit products shall not exceed [0.20] grams. Per kilogram] of the final fruit products for consumption [only those permitted coal tar colours, which are sold under the Indian Standards Institution Certification Mark shall be used in the manufacture of fruit products.]

**Amended as follows: Shown at Appendix (B)**

### **PART XXIII**

#### **Limits for Permitted Preservative in Fruit Products**

Permitted preservatives are: -

- (a) Benzoic acid including salts thereof; and-
- (b) Sulphurous acid including salts thereof.

[The quantities of individual preservative permitted to be used in various fruit products shall be as mentioned in the Table below];



<u>Fruit Products</u>	<u>Preservatives</u>	<u>Parts per million</u>
<u>1. Fruit and fruit pulp or juice (not dried) for conversion into jam or crystallized glazed or cured fruit or other products.</u>		
<u>(a) Cherries</u>	<u>Sulphur dioxide</u>	<u>[5,000]</u>
<u>(b) Strawberries &amp; Raspberries</u>	<u>-do-</u>	<u>2,000</u>
<u>(c) Other fruits</u>	<u>-do-</u>	<u>1,000</u>
<u>2. Fruit Juice concentrate</u>	<u>-do-</u>	<u>1,500</u>
<u>3. Dried fruits</u>		
<u>(a) Apricots, peaches, apples, pears and others</u>	<u>-do-</u>	<u>2,000</u>
<u>(b) Raisins or sultanas</u>	<u>-do-</u>	<u>750</u>
<u>4. Squashes, crushes, fruit syrups, cordials, fruit juices and barley waters.</u>	<u>Sulphur dioxide or Benzoic acid</u>	<u>350 600</u>
<u>5. Jam, marmalade, preserve and fruit jelly</u>	<u>Sulphur dioxide or Benzoic acid</u>	<u>40 200]</u>
<u>6. Crystallized glazed or cured fruit (including candied peel)</u>	<u>Sulphur dioxide</u>	<u>150</u>
<u>7. Fruit and fruit pulp not otherwise specified in this Schedule.</u>	<u>-do-</u>	<u>[350]</u>
<u>8. Sweetened ready to serve beverages</u>	<u>Sulphur dioxide Benzoic acid</u>	<u>70 120</u>
<u>9. Pickles and chutney made from fruit and vegetables</u>	<u>Sulphur dioxide Benzoic acid</u>	<u>100 260</u>
<u>10. Tomato and other sauces</u>	<u>Benzoic acid</u>	<u>750]</u>
<u>11. Dehydrated vegetables</u>	<u>Sulphur dioxide</u>	<u>2,000</u>
<u>12. Tomato puree and paste</u>	<u>Benzoic acid</u>	<u>250</u>
<u>13. Syrups and sharbats</u>	<u>Sulphur dioxide or Benzoic acid</u>	<u>350 600</u>

[\* In case sulphur dioxide is used as preservative in pickles and chutneys, the product should be packed in containers other than tin containers.

Explanation: - In case of fruit products wherein use of two different preservatives has been permitted a combination of the two preservatives can also be used subject to the condition that the quantity of each preservative so used does not exceed such number of part out of those prescribed for that preservative in the third column of the aforesaid Table as may be worked out on the basis of the proportion in which such preservatives are combined.]



**Amended as follows: Shown at Appendix (B)**

**[PART XXIV**

- (a) In fruit products, Pectin, Sodium Alginate, Calcium Alginate, Alginic Acid, Propylene Glycol Alginate, Mono-Sodium Glutamate, Calcium Chloride, Calcium lactate and other soluble calcium salts may be added.
- (b) Lecithin and Tocopherol may be added in fruit products as Antioxidants.]
- [(c) Aspartame subject to a maximum of 700 ppm and Ace flume k subject to a maximum of 300 ppm may be added in fruit products as artificial sweeteners.
- (d) Food acids namely malic acid, citric acid, tartaric acid and lactic acid may be added in fruit products as acidulants as per good manufacturing practice.]

**Amended as follows: Shown at Appendix (B)**



## **6A. STANDARD FOR PROCESSED FRUITS**

### **6A1 CANNED / BOTTLED FRUITS**

#### **6A1.1 DESCRIPTION**

##### **6A1.1.1 Definition**

Canned / bottled fruits are the product prepared from stemmed, peeled, unpeeled, fresh, sound, clean and matured fresh, frozen or previously canned fruit, which may or may not be packed with a suitable liquid packing medium, nutritive sweeteners and other seasoning or flavouring ingredients appropriate to the product; and processed by heat, in an appropriate manner, before or after being sealed in a container, in order to preserve its essential composition and quality factors and to prevent spoilage.

##### **6A1.1.2 Varieties**

Any cultivated variety or type suitable for canned/bottled fruit may be used in the preparation.

##### **6A1.1.3 Style**

The product shall be prepared from peeled fruit for all the following styles: Whole, Halves, Quarters, Pieces, Slices, Fingers, Diced, etc.

##### **6A1.1.4 Types of Pack**

Regular pack-with liquid packing medium.

Solid pack-closely packed fruit prepared by packing without a liquid packing medium; a dry sweetener may be used.

##### **6A1.1.5 Packing Media**

- 1. Water** – in which water is the sole packing medium;
- 2. Fruit Juice** – in which fruit juice (of the fruit to be canned) is the sole packing medium;





3. **Mixed Fruit Juices** – in which two or more compatible fruit juices which may include juice of the fruit to be canned to form the sole packing medium. When nutritive sweeteners are added to fruit juice (s) (6A1.1.5.2 and 6A1.1.5.3) the packing media shall be classified on the basis of cut-out strength as:  
Lightly sweetened fruit juice (s): Not less than 14<sup>o</sup> Brix  
Heavy sweetened fruit juice (s): Not less than 18<sup>o</sup> Brix
4. **Sugars Syrup** – in which water is combined with one or more of the following nutritive sweeteners – sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey – and classified on the basis of cut-out strength as:  
Light Syrup: Not less than 14<sup>o</sup> Brix  
Heavy Syrup: Not less than 18<sup>o</sup> Brix
5. **Dry Nutritive Sweeteners** - namely sucrose, invert sugar, dextrose and dried glucose syrup, may be added to solid packs without added liquid but with such slight amounts of steam, water or natural juice as occur in the normal canning of the product.

## 6A1.2 INGREDIENTS

**6A1.2.1 Basic** – basic ingredients are the fruits such as mango (Var. Alphonso, Dashehari, Kesar, Safeda, etc.), Guava, Banana, Pineapple, Apple, Papaya, Litchi, Jack fruit, Oranges, Cherries, Strawberries, Peaches, Pears, Grapes, etc.

**6A1.2.2 Optional** – nutritive sweeteners–(sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), spices, mint etc.

## 6A1.3 FOOD ADDITIVES

The product may contain food additives permitted in Appendix B.

## 6A1.4 SPECIAL CHARACTERISTICS

**6A1.4.1 Minimum Fill** - The container shall be well filled with fruit (s) and the product



(including packing medium) shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

**6A1.4.2 Drained Weight** - The drained weight of the fruits shall be not less than the weight given below:

- |      |              |                                      |
|------|--------------|--------------------------------------|
| (i)  | Liquid pack  |                                      |
|      | Berry Fruits | Not less than 40% of the net content |
|      | Other Fruits | Not less than 50% of the net content |
| (ii) | Solid pack   | Not less than 70% of the net content |

Drained weight shall be determined by draining the contents for two minutes on a sieve of dimension – 20.3\*20.3 centimeters having 8 meshes per 2.5 centimeters.

## **6A1.5 QUALITY REQUIREMENTS**

**6A1.5.1 General Quality Requirements** –The canned/bottled products shall have the colour and flavour characteristics of the variety or type of fruit used for canning. The fruits have a good texture. The products shall be free from blemish, damage, and disintegration and shall not have stalks, leaves and other extraneous matter. No preservative shall be added. The 80% by count shall be reasonably uniform in size.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6A1.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.



**6A1.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

**6A1.6 LABELING REQUIREMENT**

In addition to the requirements of the Standard for the Labeling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style, type of packing medium, type of pack as appropriate, shall be declared as part of the name are in close proximity to the name. If “Alphonso”, “Mangoes” ”slices “, “packed in Light Syrup” then the product may be stated on label as Alphonso Mango Slices in Light Syrup.



## **6A2 CANNED / BOTTLED FRUIT COCKTAIL**

### **6A2.1 DESCRIPTION**

#### **6A2.1.1 Definition**

Fruit Cocktail is a mixture of small and small pieces of fruits, which may be fresh, frozen or previously canned, the fruit mixture is packed with water or other suitable liquid packing medium and which may contain seasoning or flavourings appropriate for the product, packed with nutritive sweeteners and processed by heat, in an appropriate manner, before or after being sealed in a container, in order to preserve its essential composition and quality factors and to prevent spoilage.

Fruits like peaches, pears, pineapple, cherries, and grapes. Cocktail may be 5 Fruits –Fruit Cocktail – a mixture of five fruits. 4 Fruits – Fruit cocktail –a mixture of four fruits (6A2.1.3).

#### **6A2.1.2 Varieties**

Any cultivated variety or type suitable for canned/bottled fruit cocktail may be used in the preparation.

#### **6A2.1.3 Style**

The fruit shall be peeled, cored, trimmed, deseeded or pitted as may be applicable for the respective fruit in normal culinary preparation.

The products shall contain fruits in the following proportions, based on the individual drained fruit weight in relation to the drained weight of all fruits:

<b>Fruits</b>	<b>5 Fruits - Fruit Cocktail</b>	<b>4 Fruits - Fruit Cocktail</b>
Peaches	30% to 50%	30% to 50%
Pears	25% to 45%	25% to 45%
Pineapple	6% to 16%	6% to 25%
		- and either -



Grapes	6% to 20%	6% to 20%
		or
Cherries	2% to 6%	2% to 15%

#### 6A2.1.4 Types of Pack

Regular pack-with liquid packing medium.

#### 6A2.1.5 Packing Media

1. **Water** – in which water is the sole packing medium;
2. **Fruit Juice** – in which fruit juice (of the fruit to be canned) is the sole packing medium;
3. **Mixed Fruit Juices** –in which two or more compatible fruit juices which may include juice of the fruit to be canned to form the sole packing medium. When nutritive sweeteners are added to fruit juice (s) the packing media shall be classified on the basis of cut-out strength as:

Lightly sweetened fruit juice (s): Not less than 14<sup>o</sup> Brix

Heavy sweetened fruit juice (s): Not less than 18<sup>o</sup> Brix

4. **Sugars Syrup** – in which water is combined with one or more of the following nutritive sweeteners – sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey – and classified on the basis of cut-out strength as;

Light Syrup: Not less than 14<sup>o</sup> Brix

Heavy Syrup: Not less than 18<sup>o</sup> Brix

#### 6A2.2 INGREDIENTS

**6A2.2.1 Basic** – basic ingredients are the fruits mentioned in 6A2.1.1 and 6A2.1.3.

**6A2.2.2 Optional** – nutritive sweeteners –(sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), spices, mint etc.



### **6A2.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6A2.4 SPECIAL CHARACTERISTICS**

#### **6A2.4.1 Minimum Fill**

The container shall be well filled with fruit cocktail and the product (including packing medium) shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

**6A2.4.2 Drained Weight** - The drained weight of the fruits shall be not less than the weight given below:

Liquid pack                      Not less than 50% of the net content

Drained weight shall be determined by draining the contents for two minutes on a sieve of dimension – 20.3\*20.3 centimeters having 8 meshes per 2.5 centimeters.

### **6A2.5 QUALITY REQUIREMENTS**

#### **6A2.5.1 General Quality Requirements –**

The canned/bottled products shall have the colour and flavour characteristics of the variety or type of fruit used for canning/bottling. The fruits have a good texture. The products shall be free from blemish, damage, and disintegration and shall not have stalks, leaves and other extraneous matter. No preservatives shall be added. The 80% by count shall be reasonably uniform in size.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall



not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6A2.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6A2.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

#### **6A2.6 LABELING REQUIREMENT**

In addition to the requirements of the Standard of the Labeling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, mixture of fruits, variety, style, type of packing medium, as appropriate, shall be declared as part of the name are in close proximity to the name. Such as “5 Fruits – Fruit Cocktail”, “packed in Light Syrup” (5 Fruits – Fruit Cocktail in Light Syrup).



## **6A3 CANNED / BOTTLED TROPICAL FRUIT COCKTAIL**

### **6A3.1 DESCRIPTION**

#### **6A3.1.1 Definition**

Tropical Fruit Cocktail is the product prepared from a mixture of basic fruits to which may be added one or more optional fruits may be fresh, frozen or previously canned, the fruit mixture is packed with water or other suitable liquid packing medium and may be packed with nutritive sweeteners and processed by heat, in an appropriate manner, before or after being sealed in a container, in order to preserve its essential composition and quality factors and to prevent spoilage.

#### **6A3.1.2 Varieties**

Any cultivated variety or type suitable for canned/bottled tropical fruit cocktail may be used in the preparation.

#### **6A3.1.3 Style**

The fruit shall be peeled, cored, trimmed, deseeded or pitted as may be applicable for the respective fruit in normal culinary preparation.

Fruits shall be in the following proportions, based on the individual drained fruit weight in relation to the drained weight of all fruits:

<b>Basic Fruits</b>	<b>Minimum</b>	<b>Maximum</b>
Pineapple	45%	65%
Papaya or Mango (singly or in combination)	25%	50%
Banana	5%	20%
<b>Optional Fruits</b>		
Litchi, Melon, Guava, Peach, Pears	5%	20%
Jack Fruit	5%	15%





Grape	3%	20%
Maraschino Cherries	1%	4%
Oranges	3%	15%

#### 6A3.1.4 Types of Pack

Regular pack-with liquid packing medium.

#### 6A3.1.5 Packing Media

- 1. Water** – in which water is the sole packing medium;
- 2. Fruit Juice** – in which fruit juice (of the fruit to be canned) is the sole packing medium;
- 3. Mixed Fruit Juices** – in which two or more compatible fruit juices which may include juice of the fruit to be canned to form the sole packing medium. When nutritive sweeteners are added to fruit juice (s) the packing media shall be classified on the basis of cut-out strength as:  
Lightly sweetened fruit juice (s): Not less than 14<sup>0</sup> Brix  
Heavy sweetened fruit juice (s): Not less than 18<sup>0</sup> Brix
- 4. Sugars Syrup** – in which water is combined with one or more of the following nutritive sweeteners – sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey – and classified on the basis of cut-out strength as;  
Light Syrup: Not less than 14<sup>0</sup> Brix  
Heavy Syrup: Not less than 18<sup>0</sup> Brix

#### 6A3.2 INGREDIENTS

**6A3.2.1 Basic** – basic ingredients are the fruits mentioned in 6A3.1.3.

**6A3.2.2 Optional** – nutritive sweeteners –(sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), spices, mint etc.

#### 6A3.3 FOOD ADDITIVES

The product may contain food additives permitted in Appendix B.



### **6A3.4 SPECIAL CHARACTERISTICS**

#### **6A3.4.1 Minimum Fill –**

The container shall be well filled with tropical fruit cocktail and the product (including packing medium) shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

**6A3.4.2 Drained Weight** - The drained weight of the fruits shall be not less than the weight given below:

Liquid pack                      Not less than 50% of the net content

Drained weight shall be determined by draining the contents for two minutes on a sieve of dimension – 20.3\*20.3 centimeters having 8 meshes per 2.5 centimeters.

### **6A3.5 QUALITY REQUIREMENTS**

#### **6A3.5.1 General Quality Requirements –**

The canned/bottled products shall have the colour and flavour characteristics of the variety or type of fruits used for canning/bottling. The fruits have a good texture. The products shall be free from blemish, damage, and disintegration and shall not have stalks, leaves and other extraneous matter. No preservatives shall be added. The 80% by count shall be reasonably uniform in size.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.



**6A3.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6A3.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

### **6A3.6 LABELING REQUIREMENT**

In addition to the requirements of the Standard of the Labeling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, mixture of fruits, variety, style, type of packing medium, type of pack as appropriate, shall be declared as part of the name is in close proximity to the name. Such as “Tropical Fruit Cocktail”, “packed in Light Syrup” (Tropical Fruit Cocktail in Light Syrup).



## **6A4 FRUIT BAR / TOFFEE**

### **6A4.1 DESCRIPTION**

#### **6A4.1.1 Definition**

Fruit Bar / Toffee means the product prepared by blending pulp/ puree from sound ripe fruit, fresh, or previously preserved, nutritive sweeteners, butter or other vegetable fat or milk solids and other ingredients appropriate to the product and dehydrated to form sheet which can be cut to desired shape or size.

#### **6A4.1.2 Varieties**

Any cultivated variety or type suitable for fruit bar / toffee may be used in the preparation.

#### **6A4.1.3 Style**

The fruit shall be peeled, cored, trimmed, deseeded or pitted as may be applicable for the respective fruit in normal culinary preparation.

### **6A4.2 INGREDIENTS**

**6A4.2.1 Basic** – basic ingredients are the fruits such as mango (Var. Alphonso, Dashehari, Kesar, Safeda, etc.), Guava, Banana, Pineapple, Apple, Papaya, Litchi, Jack fruit, Oranges, Cherries, Strawberries, Peaches, Pears, Grapes, etc.

**6A4.2.2 Optional** – nutritive sweeteners –(sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), salt, butter or other vegetables fat or milk solids, spices, mint etc.

### **6A4.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6A4.4 SPECIAL CHARACTERISTICS**

#### **6A4.4.1 Weights and Measures**



Containers shall be as full as practicable without impairment of quality and shall be consistent with a proper declaration of contents for the product.

**6A4.4.2 The product shall comply with the following requirements: -**

(I)	Moisture (m/m)	Not more than 20.0 per cent
(ii)	Total soluble solids (m/m)	Not less than 75 per cent
(iii)	Fruit content (m/m)	Not less than 25 per cent

**6A4.5 QUALITY REQUIREMENTS**

**6A4.5.1 General Quality Requirements** –Fruit Bar / Toffee shall have the colour and flavour characteristics of the variety or type of fruit used for its preparation. The product has a good texture to eat. The products shall be free from blemish, damage, and disintegration and shall not have any extraneous matter.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6A4.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6A4.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.



#### **6A4.6 LABELING REQUIREMENT**

In addition to the requirements of the Standard for the Labeling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety shall be declared as part of the name is in close proximity to the name. Such as “Mango”, “Alphonso”, (Alphonso Mango Bar /Toffee).



## **6A5 DRIED AND DEHYDRATED FRUITS**

### **6A5.1 DESCRIPTION**

#### **6A5.1.1 Definition**

Dried and Dehydrated Fruits are the product prepared from edible part of the sound fruit, of appropriate maturity, from which, moisture has been removed, either drying by the sun or dehydrated under control conditions of temperature, humidity and air flow, to the extent that the product is preserved.

#### **6A5.1.2 Varieties**

Any cultivated variety or type suitable for drying of fruit may be used.

#### **6A5.1.3 Style**

The product shall be prepared from peeled fruit for all the following styles: Whole, Halves, Quarters, Pieces, Slices, Fingers, Diced, or powder form.

### **6A5.2 INGREDIENTS**

**6A5.2.1 Basic** – Clean, sound fruit of quality suitable for human consumption.

**6A5.2.2 Optional** – Other edible material as may be appropriate to mixing, stuffing or coating the product, including nutritive sweeteners – (sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), edible vegetable oil, etc.

### **6A5.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6A5.4 SPECIAL CHARACTERISTICS**

#### **6A5.4.1 Moisture Content-**

- |     |                               |                       |
|-----|-------------------------------|-----------------------|
| (a) | Sulphured Dehydrated fruits   | Not more than 25% m/m |
| (b) | Unsulphured Dehydrated fruits | Not more than 20% m/m |
| (c) | Sun dried fruits              | Not more than 25% m/m |



#### **6A5.4.2 Weights and Measures**

Containers shall be as full as practicable without impairment of quality and shall be consistent with a proper declaration of contents for the product.

### **6A5.5 QUALITY REQUIREMENTS**

**6A5.5.1 General Quality Requirements** –The dried products shall have the uniform size, colour, and flavour characteristics of the variety of fruit and type of treatment. The fruits have a good texture to eat. The products shall be free from blemishes, damaged or broken, insect or fungal infection and practically free from extraneous matter. When in powder form, it shall be free flowing and free from agglomerates.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6A5.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6A5.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

### **6A5.6 LABELING REQUIREMENT**

In addition to the requirements of the Standard for the Labeling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style, as appropriate, shall be declared as part of





the name is in close proximity to the name. Such as “Mangoes”, “Alphonso”, ”slices “ (Dehydrated Alphonso Mango Slices).



## **6A6 QUICK FROZEN FRUITS (IQF)**

### **6A6.1 DESCRIPTION**

#### **6A6.1.1 Definition**

Quick frozen fruit is the product prepared from fresh, clean, sound, properly ripened fruit and individually quick frozen and offered for direct consumption. Fruits are washed, sufficiently blanched to inactivate enzymes, if required.

Prepared fruits are subjected to a freezing process in appropriate equipment. Freezing operation shall not be regarded as complete unless and until the product temperature has reached (minus)-18°C at the thermal center after thermal stabilization. The recognized practice of repacking quick frozen products under controlled conditions is permitted.

#### **6A6.1.2 Varieties**

Any cultivated variety or type suitable for quick frozen fruit may be used in the preparation.

#### **6A6.1.3 Style**

The product shall be prepared from peeled fruit for all the following styles: Whole, Halves, Quarters, Pieces, Slices, Fingers, Diced, etc.

### **6A6.2 INGREDIENTS**

**6A6.2.1 Basic** – basic ingredients are the fruits like peaches, strawberries, mango, guava, etc.

**6A6.2.2 Optional** – nutritive sweeteners–(sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), salt, milk solids, spices and condiments and any other ingredients suitable for the product.

- (a) Fruits prepared with dry sugar
- (b) Fruits prepared with sugar syrup
- (c) Fruits without any dry sugar or sugar syrup



### **6A6.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6A6.4 SPECIAL CHARACTERISTICS**

#### **6A6.4.1 Fruits prepared with dry sugar**

The total soluble solids content of the liquid extracted from the thawed, comminuted sample shall not be more than 35% m/m nor less than 18% m/m, as determined by refractometer at 20°C.

#### **6A6.4.2 Fruits prepared with sugar syrup**

The amount of syrup used is no more than that required to cover the fruits and fill the spaces between them. The total soluble solids content of the liquid extracted from the thawed, comminuted sample shall not be more than 30% m/m and not less than 15% m/m, as determined by refractometer at 20°C.

#### **6A6.4.3 Individual pieces should be free flowing.**

### **6A6.5 QUALITY REQUIREMENTS**

#### **6A6.5.1 General Quality Requirements –**

The quick frozen products shall have the colour and flavour characteristics of the variety or type of fruit used. The fruits have a good texture. The products shall be free from seed, pits, blemish, damage, and disintegration and shall not have stalks, leaves and other extraneous matter. The 80% by count shall be reasonably uniform in size.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent



a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6A6.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6A6.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

### **6A6.6 LABELING REQUIREMENT**

In addition to the requirements of the Standard of the Labeling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style, as appropriate, shall be declared as parts of the name are in close proximity to the name. If “Freestone”, ‘Peach”, “Slices” used then product shall be labelled as Quick Frozen Freestone Peach Slices.

**6A6.6.1 Additional Requirements** - the packages shall bear clear directions for keeping the time they are purchased from retail to the time of their use, as well as directions for thawing.

#### **6A6.6.2 Bulk Packs**

In the case of quick frozen fruits in bulk the information required above shall either be placed on the container or be given in accompanying documents, except that the name of the product accompanied by the words "quick frozen" or "frozen" may be used, and the name and address of the manufacturer or packer shall appear on the container.

### **6A6.7 PACKAGING**

Packaging used for quick frozen fruits shall:



- (a) protect the organoleptic and other quality characteristics of the product.
- (b) protect the product against microbiological and other contamination.
- (c) protect the product from dehydration, and where appropriate, leakage as far as technologically practicable.
- (d) not pass on to the product any odour, taste, colour or other foreign characteristics, throughout the processing (where applicable) and distribution of the product up to the time of final sale.



## **6A7 FRUIT CONCENTRATES**

### **6A7.1 DESCRIPTION**

#### **6A7.1.1 Definition**

Fruit concentrate is the unfermented product but capable of fermentation, prepared by concentrating the juice / pulp or puree of sound, ripe fruits. Natural volatile components may be restored to the concentrates where these have been removed. It may be pulpy, turbid or clear and preserved by heat, in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage.

#### **6A7.1.2 Varieties**

Any cultivated variety or type suitable for concentrate may be used in the preparation.

#### **6A7.1.3 Style**

The fruit shall be peeled, cored, trimmed, deseeded or pitted as may be applicable for the respective fruit in normal culinary preparation.

### **6A7.2 INGREDIENTS**

**6A7.2.1 Basic** – basic ingredients are the fruit juice / pulp / puree.

### **6A7.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6A7.4 SPECIAL CHARACTERISTICS**

**6A7.4.1 Minimum Fill** - The container shall be well filled with fruit concentrate and the product shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

**6A7.4.2 Total Soluble Solids** – Total soluble solids content should not be less than double the content of the original juice / pulp / puree.



**6A7.4.3. Preservation** – The fruit concentrate may be preserved by thermal processing (canning /bottling, aseptically packed), freezing or chemical preservatives.

## **6A7.5 QUALITY REQUIREMENTS**

**6A7.5.1 General Quality Requirements** –The fruit concentrates shall have the colour and flavour characteristics of the variety or type of fruit used. Concentrate shall be free from gelatin or curdling.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6A7.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6A7.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

## **6A7.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labeling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, shall be declared as part of the name is in close proximity to the name.



## **6A8 TAMARIND PULP / PUREE AND CONCENTRATE**

### **6A8.1 DESCRIPTION**

#### **6A8.1.1 Definition**

(a) Tamarind pulp / Puree and Concentrate is the unfermented product which is capable of fermentation, obtained from fresh or dried tamarind, by boiling with water and sieving it, and preserved either by thermal processing or using permitted preservatives.

(b) Tamarind Concentrate is the product obtained from tamarind pulp / puree from which water has been removed by evaporation to achieve appropriate concentration.

#### **6A8.1.2 Varieties**

Any cultivated variety or type suitable for pulp / puree and concentrate may be used in the preparation.

#### **6A8.1.3 Style**

The fruit shall be peeled, trimmed, deseeded as may be applicable for the respective fruit in normal culinary preparation.

### **6A8.2 INGREDIENTS**

**6A8.2.1 Basic** – basic ingredients are the tamarind fruit / pulp /puree.

### **6A8.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6A8.4 SPECIAL CHARACTERISTICS**

**6A8.4.1 Minimum Fill** - The container shall be well filled with tamarind pulp / puree and concentrate and the product shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

**6A8.4.2 Preservation** – The tamarind pulp / puree and concentrate may be preserved by





thermal processing (canning /bottling, aseptically packed), freezing or chemical preservatives.

**6A8.4.3 It shall meet the following requirements: -**

<b>Tamarind Product</b>	<b>Minimum TSS (%)</b>	<b>Minimum Acidity (%)</b>	<b>Ash Insoluble in dilute HCl (%) Maximum</b>
Pulp/Puree	32	4.5	0.4
Concentrate	65	9.0	0.8

**6A8.5 QUALITY REQUIREMENTS**

**6A8.5.1 General Quality Requirements** –The tamarind pulp/ puree and concentrate shall have the colour and flavour characteristics of the variety or type of fruit used. No preservatives shall be added except if the product is preserved by chemical preservatives.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6A8.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6A8.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.



## **6B STANDARDS FOR PROCESSED VEGETABLE**

### **6B1 CANNED / BOTTLED VEGETABLES**

#### **6B1.1 DESCRIPTION**

##### **6B1.1.1 Definition**

Canned/bottled vegetables are the product prepared from stemmed, peeled or unpeeled, fresh, sound, clean and matured fresh, frozen or previously canned vegetable, which may or may not be packed with a suitable liquid packing medium, salt, nutritive sweeteners and other seasoning or flavouring ingredients appropriate to the product; and processed by heat, in an appropriate manner, before or after being sealed in a container, in order to preserve its essential composition and quality factors and to prevent spoilage.

##### **6B1.1.2 Varieties**

Any cultivated variety or type suitable for canned/bottled vegetable may be used in the preparation.

##### **6B1.1.3 Style**

The product shall be prepared from vegetable for all the following styles:

Whole, Halves, Quarters, Pieces, Slices, Fingers, Diced, etc.

##### **6B1.1.4 Types of Pack**

Regular pack-with liquid packing medium.

Solid pack-without any added liquid.

##### **6B1.1.5 Packing Media**

#### **6B1.2 INGREDIENTS**

**6B1.2.1 Basic** – basic ingredients are the vegetables Asparagus, Carrots, Cabbage, Cauliflower, Green Beans, Broccoli, Brussels Sprouts, Mushroom, Green Peas, Processed Peas, Tomatoes, Spinach, etc.



**6B1.2.2 Optional** – Salt, nutritive sweeteners –(sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), Condiments such as Spices and Herbs, Butter, etc.

### **6B1.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6B1.4 SPECIAL CHARACTERISTICS**

**6B1.4.1 Minimum Fill** - The container shall be well filled with vegetable (s) and the product (including packing medium) shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

**6B1.4.2 Drained Weight** - The drained weight of the vegetables shall be not less than the weight given below:

- |                              |                                      |
|------------------------------|--------------------------------------|
| (i) Liquid pack              |                                      |
| (a) Tomatoes and Mushroom    | Not less than 50% of the net content |
| (b) Mushroom packed in sauce | Not less than 25% of the net content |
| (c) Other vegetables         | Not less than 55% of the net content |
| (ii) Solid pack              | Not less than 70% of the net content |

Drained weight shall be determined by draining the contents for two minutes on a sieve of dimension – 20.3\*20.3 centimeters having 8 meshes per 2.5 centimeters.

### **6B1.5 QUALITY REQUIREMENTS**

**6B1.5.1 General Quality Requirements** –The canned products shall have the colour and flavour characteristics of the variety or type of vegetables used for canning. The vegetables have a good texture. The products shall be free from blemish, damage, and disintegration and shall not have stalks, leaves and other extraneous matter The 80% by count shall be reasonably uniform in size.



It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6B1.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6B1.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

#### **6B1.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labelling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style, type of packing medium, type of pack as appropriate, shall be declared as part of the name is in close proximity to the name. If “Green Peas” is packed in “Brine”, the product should be labelled as Green Peas in Brine.



## **6B2 CANNED /BOTTLED CURRIED OR READT TO EAT VEGETABLES**

### **6B2.1 DESCRIPTION**

#### **6B2.1.1 Definition**

Canned/bottled curried or ready to eat vegetables are the product prepared from stemmed, peeled or unpeeled, sound, clean and appropriately matured fresh, dehydrated or frozen or previously processed vegetables, and processed by heat, in an appropriate manner, before or after being sealed in a container, in order to preserve its essential composition and quality factors and to prevent spoilage.

#### **6B2.1.2 Varieties**

Any cultivated variety or type suitable for product may be used in the preparation.

#### **6B2.1.3 Style**

The product shall be prepared from vegetable for all the following styles:

- (a) Whole or Cut into pieces;
- (b) Single vegetable or in combination;
- (c) Vegetables are prepared in any suitable style applicable for the respective vegetable in normal culinary preparation.

### **6B2.2 INGREDIENTS**

**6B2.2.2 Basic** – basic ingredients are the vegetables Asparagus, Carrots, Cabbage, Cauliflower, Green Beans, Broccoli, Brussels Sprouts, Mushroom, Green Peas, Processed Peas, Tomatoes, Spinach, *Sarso-Ka-Sag* etc.

**6B2.2.3 Optional** – Salt, nutritive sweeteners –(sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), condiments such as spices and herbs, edible vegetable oils and fats, milk fat and any other ingredients suitable to the product.

### **6B2.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.



## **6B2.4 SPECIAL CHARACTERISTICS**

**6B2.4.1 Minimum Fill** - The container shall be well filled with curried vegetables and the product shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

## **6B2.5 QUALITY REQUIREMENTS**

**6B2.5.1 General Quality Requirements** –The products shall have the colour, flavour and taste characteristics of the variety or type of vegetables used for preparation. The products shall not have stalks, leaves and other extraneous matter.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6B2.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6B2.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

## **6B2.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labelling of Prepackaged Processed Fruits and Vegetables the following provisions apply:



The name of the product, variety, style, as appropriate, shall be declared as part of the name is in close proximity to the name.

**6B2.6.1 Additional Requirements** - the packages shall bear clear directions for using the product.



## **6B3 CANNED /BOTTLED VEGETABLE SOUPS**

### **6B3.1 DESCRIPTION**

#### **6B3.1.1 Definition**

Canned/bottled vegetable soups are the unfermented but fermentable product, intended for direct consumption, prepared from juice / pulp / puree of sound, clean and appropriately matured vegetables, fresh, dehydrated or frozen or previously processed and cooked to a suitable consistency and processed by heat, in an appropriate manner, before or after being sealed in a container, in order to preserve its essential composition and quality factors and to prevent spoilage. It may be clear, turbid or cloudy.

#### **6B3.1.2 Varieties**

Any cultivated variety or type suitable for product may be used in the preparation.

#### **6B3.1.3 Style**

The product shall be prepared from vegetable for all the following styles:

- (a) Single vegetable or in combination;
- (b) Vegetables are prepared in any suitable style applicable for the respective vegetable in normal culinary preparation.

### **6B3.2 INGREDIENTS**

**6B3.2.1 Basic** – basic ingredients are the vegetables.

**6B3.2.2 Optional** – Salt, nutritive sweeteners –(sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), condiments such as spices and herbs, and any other ingredients suitable to the product.

### **6B3.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6B3.4 SPECIAL CHARACTERISTICS**





**6B3.4.1 Minimum Fill** - The container shall be well filled with vegetable soup and the product shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

**6B3.4.2 Total Soluble Solids –**

Vegetable soups	Not less than 5.0 per cent (m/m)
Tomato soup	Not less than 7.0 per cent (m/m)

**6B3.5 QUALITY REQUIREMENTS**

**6B3.5.1 General Quality Requirements** –The products shall have the colour, flavour and taste characteristics of the variety or type of vegetables used for preparation. The products shall not have stalks, leaves and other extraneous matter.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6B3.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6B3.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

**6B3.6 LABELLING REQUIREMENT**



In addition to the requirements of the Standard for the Labelling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style, as appropriate, shall be declared as part of the name is in close proximity to the name.

**6B3.6.1 Additional Requirements** - the packages shall bear clear directions for using the product.



## **6B4 DRIED AND DEHYDRATED VEGETABLE**

### **6B4.1 DESCRIPTION**

#### **6B4.1.1 Definition**

Dried and Dehydrated Vegetables are the product prepared, from edible part of the sound vegetable, of appropriate maturity, from which, moisture has been removed, either drying by the sun or dehydrated under control conditions of temperature, humidity and air flow, to the extent that the product is preserved.

#### **6B4.1.2 Varieties**

Any cultivated variety or type suitable for drying of vegetable may be used.

#### **6B4.1.3 Style**

The product shall be prepared from peeled vegetable for all the following styles:  
Whole, Halves, Quarters, Pieces, Slices, Flakes, Fingers, Diced, Kibbled, granules or powdered.

### **6B4.2 INGREDIENTS**

**6B4.2.1 Basic** – Clean, sound vegetable of quality suitable for human consumption.

### **6B4.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6B4.4 SPECIAL CHARACTERISTICS**

#### **6B4.4.1 Weights and Measures**

Containers shall be as full as practicable without impairment of quality and shall be consistent with a proper declaration of contents for the product.

**6B4.4.2 It shall meet the requirements as given in the Table below: -**



TABLE

Sl. No.	Name of Vegetables	Moisture not more than (percent)	Sulphur Dioxide not more than (PPM)	Total Ash not more than (percent)	Ash insoluble in dilute HCL not more than (percent)	Peroxidase Test
1.	Green Leafy Vegetable	7	2000ppm	-	-	Negative
2.	(a) Tubers like Arvi (b) Lotus-Roots (c) Tapioca (d) Yam (e) Carrot (f) Potato	7	2000ppm	-	-	Negative
3.	Karela	6	-	-	-	Negative
4.	Cabbage	6	2000ppm	-	-	Negative
5.	Okra	8	2000ppm	-	-	Negative
6.	Onion	8	-	5	0.5	Negative
7.	Garlic	6	-	5	0.5	Negative
8.	Other Vegetables	8	2000ppm	5	0.5	Negative
9.	Powders of Onion & Garlic	5	-	6.5	2.0	Negative
10.	Powders of other vegetables including tomatoes	5	2000ppm	5	0.5	Negative



## **6B4.5 QUALITY REQUIREMENTS**

**6B4.5.1 General Quality Requirements** –The dried products shall have the uniform size, colour, and flavour characteristics of the variety of vegetable and type of treatment. The products shall be free from blemishes, damaged or broken, insect or fungal infection, and discolouration due to scorching or enzymatic reaction. It shall be free from stalks, peels, stems and extraneous matter. When in powder form, it shall be free flowing and free from agglomerates.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6B4.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6B4.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

## **6B4.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labelling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style, as appropriate, shall be declared as part of the name is in close proximity to the name. If “Carrot”, ”slices” is “Dehydrated” then the product will be labeled as Dehydrated Carrot Slices.



## **6B5 QUICK FROZEN VEGETABLES (IQF)**

### **6B5.1 DESCRIPTION**

#### **6B5.1.1 Definition**

Quick frozen vegetable is the product prepared from fresh, clean, sound, suitable maturity of vegetable and individually quick frozen and offered for direct consumption. Vegetables are washed, sufficiently blanched to inactivate enzymes, if required.

Prepared vegetables are subjected to a freezing process in appropriate equipment. Freezing operation shall not be regarded as complete unless and until the product temperature has reached (minus)-18°C at the thermal center after thermal stabilization. The recognized practice of repacking quick frozen products under controlled conditions is permitted.

#### **6B5.1.2 Varieties**

Any cultivated variety or type suitable for quick frozen vegetables may be used in the preparation.

#### **6B5.1.3 Style**

The product shall be prepared from peeled vegetables for all the following styles:  
Whole, Halves, Quarters, Pieces, Slices, Fingers, Diced, etc.

### **6B5.2 INGREDIENTS**

**6B5.2.1 Basic** – basic ingredients are the vegetables such as Carrots, Cauliflower, Green Beans, Broccoli, Brussels Sprouts, Spinach, etc.

**6B5.2.2 Optional** – salt (sodium Chloride), nutritive sweeteners –(sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), condiments, such as spices and herbs and any other ingredients suitable for the product.



### **6B5.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6B5.4 SPECIAL CHARACTERISTICS**

Individual pieces should be free flowing.

### **6B5.5 QUALITY REQUIREMENTS**

**6B5.5.1 General Quality Requirements** –The quick frozen vegetables shall have the colour and flavour characteristics of the variety or type of vegetables used. The vegetables have a good texture. The products shall be free from sand, grit, fibrous tissues, blemish, damage, and disintegration and shall not have stalks, leaves and any other extraneous matter. The 80% by count shall be reasonably uniform in size.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6B5.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6B5.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.



## **6B5.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labelling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style, as appropriate, shall be declared as part of the name is in close proximity to the name. If “Carrot”, “Slices” used then product shall be labeled as Quick Frozen Carrot Slices.

**6B5.6.1 Additional Requirements** - the packages shall bear clear directions for keeping the time they are purchased from retail to the time of their use, as well as directions for thawing.

### **6B5.6.2 Bulk Packs**

In the case of quick frozen vegetables in bulk the information required above shall either be placed on the container or be given in accompanying documents, except that the name of the product accompanied by the words "quick frozen" or "frozen" may be used, and the name and address of the manufacturer or packer shall appear on the container.

## **6B5.7 PACKAGING**

Packaging used for quick frozen vegetables shall:

- (a) protect the organoleptic and other quality characteristics of the product.
- (b) protect the product against microbiological and other contamination.
- (c) protect the product from dehydration, and where appropriate, leakage as far as technologically practicable.
- (d) not pass on to the product any odour, taste, colour or other foreign characteristics, throughout the processing (where applicable) and distribution of the product up to the time of final sale.





## **6B6 FROZEN CURRIED OR READY TO EAT VEGETABLES**

### **6B6.1 DESCRIPTION**

#### **6B6.1.1 Definition**

Frozen curried or ready to eat vegetables are the product prepared from stemmed, peeled or unpeeled, sound, clean and appropriately matured fresh, dehydrated or frozen or previously processed vegetables, and subjected to freezing process in appropriate equipment. Freezing operation shall not be regarded as complete unless and until the product temperature has reached (minus)-18°C at the thermal center after thermal stabilization.

#### **6B6.1.2 Varieties**

Any cultivated variety or type suitable for product may be used in the preparation.

#### **6B6.1.3 Style**

The product shall be prepared from vegetable for all the following styles:

- (d) Whole or Cut into pieces;
- (e) Single vegetable or in combination;
- (f) Vegetables are prepared in any suitable style applicable for the respective vegetable in normal culinary preparation.

### **6B6.2 INGREDIENTS**

**6B6.2.1 Basic** – basic ingredients are the suitable vegetables.

**6B6.2.2 Optional** – Salt, nutritive sweeteners –(sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), condiments such as spices and herbs, edible vegetable oils and fats, milk fat and any other ingredients suitable to the product.

### **6B6.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6B6.4 SPECIAL CHARACTERISTICS**

#### **6B6.4.1 Weights and Measures**



Containers shall be as full as practicable without impairment of quality and shall be consistent with a proper declaration of contents for the product.

## **6B6.5 QUALITY REQUIREMENTS**

**6B6.5.1 General Quality Requirements** –The products shall have the colour, flavour and taste characteristics of the variety or type of vegetables used for preparation. The products shall not have stalks, leaves and other extraneous matter.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6B6.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6B6.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

## **6B6.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labelling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style, as appropriate, shall be declared as part of the name is in close proximity to the name.



**6B6.6.1 Additional Requirements** - the packages shall bear clear directions for using the product.

**6B6.6.2 Bulk Packs**

In the case of quick frozen curried vegetables in bulk the information required above shall either be placed on the container or be given in accompanying documents, except that the name of the food accompanied by the words "quick frozen" or "frozen" may be used, and the name and address of the manufacturer or packer shall appear on the container.

**6B6.7 PACKAGING**

Packaging used for quick curried vegetables shall:

- (a) protect the organoleptic and other quality characteristics of the product.
- (b) Protect the product against microbiological and other contamination.
- (c) protect the product from dehydration, and where appropriate, leakage as far as technologically practicable.
- (d) not pass on to the product any odour, taste, colour or other foreign characteristics, throughout the processing (where applicable) and distribution of the product up to the time of final sale.



## **6B7 VEGETABLE CONCENTRATES**

### **6B7.1 DESCRIPTION**

#### **6B7.1.1 Definition**

Vegetable concentrate is the unfermented product but capable of fermentation, prepared by concentrating the juice / pulp or puree of sound, and clean vegetables of appropriate maturity. Natural volatile components may be restored to the concentrates where these have been removed. It may be pulpy, turbid or clear and preserved by heat, in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage.

#### **6B7.1.2 Varieties**

Any cultivated variety or type suitable for vegetable concentrate may be used in the preparation.

#### **6B7.1.3 Style**

The vegetables shall be peeled, cored, trimmed, deseeded or pitted as may be applicable for the respective vegetable in normal culinary preparation.

### **6B7.2 INGREDIENTS**

**6B7.2.1 Basic** – basic ingredients are the vegetable juice / pulp / puree.

**6B7.2.2 Optional** – salt and other suitable seasoning ingredients may be added.

### **6B7.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6B7.4 SPECIAL CHARACTERISTICS**

**6B7.4.1 Minimum Fill** - The container shall be well filled with vegetable concentrate, the product shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.



**6B7.4.2 Total Soluble Solids** – Total soluble solids content should not be less than double the content of the original juice / pulp / puree.

**6B7.4.3 Preservation** – The vegetable concentrate may be preserved by thermal processing (canning / bottling, aseptically packed), freezing or chemical preservatives.

## **6B7.5 QUALITY REQUIREMENTS**

**6B7.5.1 General Quality Requirements** –The vegetable concentrates shall have the colour and flavour characteristics of the variety or type of vegetable used.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6B7.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6B7.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

## **6B7.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labelling of Prepackaged Processed Fruits and Vegetables the following provisions apply:



The name of the product, variety, shall be declared as part of the name is in close proximity to the name.



## **6B8 TOMATO PUREE AND PASTE**

### **6B8.1 DESCRIPTION**

#### **6B8.1.1 Definition**

Tomato puree and paste means the unfermented product but capable of fermentation, prepared by concentrating the juice of sound and clean ripe tomatoes to desired concentration. It may contain salt and other ingredients suitable to the products.

#### **6B8.1.2 Varieties**

Any cultivated variety or type suitable for tomato puree and paste may be used in the preparation.

### **6B8.2 INGREDIENTS**

**6B8.2.1 Basic** – basic ingredients are the tomato fruits or juice.

**6B8.2.2 Optional** – salt and other suitable seasoning ingredients may be added.

### **6B8.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6B8.4 SPECIAL CHARACTERISTICS**

**6B8.4.1 Minimum Fill** - The container shall be well filled with tomato puree and paste, the product shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

**6B8.4.2 Total Soluble Solids** – Total soluble solids (m/m) and free of salt should be as follows:

Tomato Puree	Not less than 9.0 per cent
Tomato Paste	Not less than 25.0 per cent

**6B8.4.3 Preservation** – The tomato puree and paste may be preserved by thermal



processing (canning / bottling, aseptically packed), freezing or chemical preservatives.

## **6B8.5 QUALITY REQUIREMENTS**

**6B8.5.1 General Quality Requirements** –The tomato puree and paste shall have the colour and flavour characteristics of the variety or type of tomato used. The product shall be free from burnt or any objectionable flavour.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6B8.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6B8.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

## **6B8.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labelling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, total soluble solids (free of salt) shall be declared as part of the name is in close proximity to the name.





## **6C STANDARD FOR JUICES AND BEVERAGES**

### **6C1 FRUIT JUICES**

#### **6C1.1 DESCRIPTION**

##### **6C1.1.1 Definition**

Fruit juice is the unfermented but fermentable liquid obtained from the edible part of sound, appropriately mature and fresh fruit for direct consumption and processed by heat, in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage.

##### **6C1.1.2** Fruit juice is obtained as follows:

- (a) **Fruit juice** directly expressed by mechanical extraction process.
- (b) **Fruit juice from concentrate** by reconstituting concentrated fruit juice

The juice is prepared by suitable processes, which maintain the essential physical, chemical, organoleptical and nutritional characteristics of the juices of the fruit from which it comes. The juice may be cloudy or clear and may have restored aromatic substances and volatile flavour components, all of which must be obtained by suitable physical means, and all of which must be recovered from the same kind of fruit. Pulp and cells obtained by suitable physical means from the same kind of fruit may be added.

A single juice is obtained from one kind of fruit. A mixed juice is obtained by blending two or more juices or juices and purées, from different kinds of fruit.

##### **6C1.1.3 Varieties**

Any cultivated variety or type suitable for fruit juice may be used in the preparation.

##### **6C1.1.4 Style**

The fruit shall be peeled, cored, trimmed, deseeded or pitted as may be applicable for the respective fruit in normal culinary preparation.



## **6C1.2 INGREDIENTS**

**6C1.2.1 Basic** – basic ingredients are the fruits such as Pineapple, Apple, Oranges, Cherries, Strawberries, Pears, Grapes, etc and / or fruit juice concentrates.

**6C1.2.2 Optional** –nutritive sweeteners –(sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), salt, spices, herbs, etc.

## **6C1.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

## **6C1.4 SPECIAL CHARACTERISTICS**

**6C1.4.1 Minimum Fill** - The container shall be well filled with fruit juice and the product shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

### **6C1.4.2 Nutritive Sweeteners**

Nutritive sweeteners may be added not exceeding 15g / kg but not exceeding 150g / kg in very acidic fruit juices, the juice in which sugars added more than 15g/kg but not more than 150g/kg the juice is declared as sweetened juice on the label.

Product is not required to be called sweetened juice the added nutritive sweeteners are not in excess of 15g / kg.



**6C1.4.3 The product shall meet the following requirements;**

### **FRUIT JUICES**

	<b>Fruit Juices (Unsweetened)</b>	<b>TSS Min. (%) (Freshly Expressed)</b>	<b>TSS Min. (%) (Reconstituted from concentrate)</b>	<b>Acidity expressed as Citric Acid Max. (%)</b>
1.	Apple	10	11.5	3.5 (as malic acid)
2.	Orange	10	11.2	3.5
3.	Grape Fruit	9	10.0	3.5
4.	Lemon	6	8.0	Not less than 4.0%
5.	Lime	6	8.0	Not less than 5.0%
6.	Grape	15	16	3.5
7.	Pineapple	10	12.8	3.5
8.	Black Current	11	11	3.5
9.	Mandarin/Tangerine	10	11.8	3.5
10.	Pomegranate	10	12.0	3.5
11.	Pear	10	12.0	3.5
12.	Aonla	6	6	3.5
13	Other Fruit Juices of single species or combination there of	Natural	Natural	3.5

#### **6C1.4.4 Sweetened Fruit Juice**

The juice in which sugar added more than 15 g/kg but not more than 150 g/kg the juice is declared as sweetened juice.

#### **6C1.5 QUALITY REQUIREMENTS**

**6C1.5.1 General Quality Requirements** –The products shall have the colour and flavour characteristics of the variety or type of fruit used for preparation. The products shall be free from any extraneous matter.



It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6C1.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6C1.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

#### **6C1.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labelling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style, as appropriate, shall be declared as part of the name is in close proximity to the name. If nutritive sweetener has been added it may be declare on the label such as Sweetened Juice.



## **6C2 FRUIT PULP / PUREE**

### **6C2.1 DESCRIPTION**

#### **6C2.1.1 Definition**

Fruit pulp is the unfermented but fermentable thick liquid obtained from the edible part of sound, appropriately mature and fresh fruit for direct consumption and processed by heat, in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage.

- (a) **Fruit Pulp-** means the edible portions of the fruit, mashed but not reduced to puree.
- (b) **Fruit Puree-** means fruit ingredient finely divided by sieving, screening or other mechanical means.

#### **6C2.1.2 Fruit pulp is obtained as follows:**

- (c) **Fruit pulp** directly expressed by mechanical extraction process.
- (d) **Fruit pulp from concentrate** by reconstituting concentrated fruit pulp

The pulp is prepared by suitable processes, which maintain the essential physical, chemical, organoleptical and nutritional characteristics of the pulp of the fruit from which it comes. The pulp may have restored aromatic substances and volatile flavour components, all of which must be obtained by suitable physical means, and all of which must be recovered from the same kind of fruit. Pulp and cells, obtained by suitable physical means from the same kind of fruit may be added.

A single pulp is obtained from one kind of fruit. A mixed pulp is obtained by blending two or more pulps and purées, from different kinds of fruit.

#### **6C2.1.3 Varieties**

Any cultivated variety or type suitable for fruit pulp / puree may be used in the preparation.



#### **6C2.1.4 Style**

The fruit shall be peeled, cored, trimmed, deseeded or pitted as may be applicable for the respective fruit in normal culinary preparation.

#### **6C2.1.5 Juice from Pulpy Fruits**

Juice may be made from pulpy fruits such as Mango, Guava, Banana, Papaya, Lithci, Passion Fruit, Apricot, Plum, Peach, Prune, Tamarind etc, and in their juice 45 per cent water and nutritive sweeteners and acidulants like citric acid (limited to GMP) may be added if declared on the label.

### **6C2.2 INGREDIENTS**

**6C2.2.1 Basic** – basic ingredients are the fruits such as Mango (Var. Alphonso, Dashehari, Kesar, Safeda, etc.), Guava, Banana, Papaya, Litchi, Jack fruit, Strawberries, etc. and / or fruit pulp concentrates.

**6C2.2.2 Optional** – nutritive sweeteners –(sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), salt, spices, herbs, etc.

### **6C2.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6C2.4 SPECIAL CHARACTERISTICS**

**6C2.4.1 Minimum Fill** - The container shall be well filled with fruit pulp / puree and the product shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

#### **6C2.4.2 Nutritive Sweeteners**

Nutritive sweeteners may be added not exceeding 15g / kg but not exceeding 150g / kg in very acidic fruit pulp, the pulp / puree in which nutritive sweeteners added more than 15g/kg but not more than 150g/kg the pulp is declared as sweetened fruit



pulp on the label. Product is not required to be called sweetened fruit pulp the added nutritive sweeteners are not in excess of 15g / kg.

**6C2.4.3 The product shall meet the following requirements:**

**FRUIT PULPS**

	<b>Fruit Pulps (Unsweetened)</b>	<b>TSS Min. (%) (Freshly Expressed)</b>	<b>TSS Min. (%) (Reconstituted from concentrate)</b>	<b>Acidity expressed as Citric Acid Max. (%)</b>
1.	Mango	12	13.5	3.5
2.	Guava	6	8.5	3.5
3.	Papaya	6	6.0	3.5
4.	Fig	18	18	3.5
5.	Litchi/Lychee	10	11.2	3.5
6.	Banana	10	10	3.5
7.	Passion Fruit	10	12	3.5
8.	Apricot	10	11.5	3.5
9.	Plum	10	12	3.5
10.	Prune	18	18.5	3.5
11.	Peach	10	10.5	3.5
12.	Melon	6	8.0	3.5
13.	Strawberry	6	7.5	3.5
14.	Mulberry	6	6.0	3.5
15.	Aonla	6	6.0	3.5
16.	Other Fruit Pulps of single species or combination there of	Natural	Natural	3.5



#### **6C2.4.4 Sweetened Fruit Pulp**

The pulp in which sugar added more than 15 g/kg but not more than 150 g/kg the juice is declared as sweetened pulp.

#### **6C2.5 QUALITY REQUIREMENTS**

**6C2.5.1 General Quality Requirements** –The products shall have the colour and flavour characteristics of the variety or type of fruit used for preparation. The products shall be free from any extraneous matter.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6C2.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6C2.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

#### **6C2.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labeling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style, as appropriate, shall be declared as part of the name is in close proximity to the name. If nutritive sweetener has been added in





mango pulp (15g to 150g), then it may be declare on the label such as Sweetened Mango Pulp.



## **6C3 FRUIT NECTARS**

### **6C3.1 DESCRIPTION**

#### **6C3.1.1 Definition**

Fruit Nectar is the unfermented but fermentable product obtained by combining fruit juice / pulp / puree / concentrate or powdered fruit juice and / or edible part of sound, ripe fruit (s) with water, nutritive sweeteners and processed by heat, in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage. It is used for direct consumption.

A mixed fruit nectar is obtained from two or more different kinds of fruit.

#### **6C3.1.2 Varieties**

Any cultivated variety or type suitable for fruits nectar may be used in the preparation.

#### **6C3.1.3 Style**

The fruit shall be peeled, cored, trimmed, deseeded or pitted as may be applicable for the respective fruit in normal culinary preparation.

### **6C3.2 INGREDIENTS**

**6C3.2.1 Basic** – basic ingredients are fruit juice / pulp / puree / concentrate or powdered fruit juice and / or edible part of sound, ripe fruit (s).

**6C3.2.2 Optional** – nutritive sweeteners, (sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), salt, spices, herbs, etc. Lemon and lime juice may be added as an acidifying agent in quantities, which would not impair characteristic of fruit flavour of the fruit used.

### **6C3.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.



### 6C3.4 SPECIAL CHARACTERISTICS

**6C3.4.1 Minimum Fill** - The container shall be well filled with fruit nectar and the product shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

### 6C3.4.2 Total Solid Solids, Juice / Pulp Content

The product shall meet the following requirements:

#### FRUIT NECTARS

Sl. No.	Fruit Nectars made from	TSS (%) Min.	Fruit Juice / Pulp Content (%) Min.	Acidity Expressed as Citric Acid (%) Max.
1	Lime	15	10	1.5
2	Lemon	15	10	1.5
3	Passion fruit	15	25	1.5
4	Blackcurrant	15	25	1.5
5	Gooseberry	15	25	1.5
6	Plum	15	25	1.5
7	Sour cherry	15	25	1.5
8	Other cherries	15	25	1.5
9	Apricot	15	25	1.5
10	Raspberry	15	25	1.5
11	Strawberry	15	25	1.5
12	Mulberry/blackberry	15	25	1.5
13	Tamarind	15	25	1.5
14	Melon	15	25	1.5
15	Aonla	15	25	1.5
16	Mango	15	25	1.5
17	Banana	15	25	1.5
18	Guava	15	25	1.5
19	Papaya	15	25	1.5
20	Lychee / Litchi	15	25	1.5
21	Peach	15	25	1.5



22	Fig	15	25	1.5
23	Prune	15	25	1.5
24	Other Fruit Nectars of high acidity / pulpy / strong Flavour	15	25	1.5
25	Mixed fruit Nectar	15	25	1.5
26	Apple	15	50	1.5
27	Pear	15	50	1.5
28	Citrus fruits except lemon and lime	15	50	1.5
29	Pineapple	15	50	1.5
30	Grape	15	50	1.5
31	Cashew fruit	15	50	1.5
32	Pomegranate	15	50	1.5
33	Other Fruit Nectars of low acidity /non-pulpy / weak Flavour	15	50	1.5

### 6C3.5 QUALITY REQUIREMENTS

**6C3.5.1 General Quality Requirements** –The products shall have the colour and flavour characteristics of the variety or type of fruit used for preparation. The products shall be free from any extraneous matter.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.



**6C3.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6C3.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

### **6C3.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labelling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, as appropriate, shall be declared as part of the name is in close proximity to the name.



## **6C4 FRUIT BEVERAGES**

### **6C4.1 DESCRIPTION**

#### **6C4.1.1 Definition**

(a) **Fruit Syrup/ Sherbet, Fruit Crush and Fruit Squash** are the unfermented but fermentable products obtained from the edible part of sound, appropriately mature and fresh fruit or fruit juice / pulp / puree or fruit concentrates by blending it with nutritive sweeteners, water and with or without salt, aromatic herbs, peel oil and any other ingredients suitable to the product and are preserved by chemical preservatives. These products are generally diluted with potable water before serving.

(b) **Fruit Cordial** means a clear product free from any cellular matter, obtained by blending unfermented but fermentable clarified fruit juice with nutritive sweeteners and water with or without salt and peel oil and any other ingredients suitable to the product and is generally diluted with potable water before serving.

(c) **Fruit Drinks / Ready to Serve Beverage** is prepared from fruit juice / pulp/ puree or concentrate and by blending it with nutritive sweeteners, water and with or without salt, aromatic herbs, peel oil and any other ingredients suitable to the product and used for direct consumption and not diluted with water.

(d) **Barley Water (Lemon, Orange, Grape Fruit etc.)** means the product prepared from unfermented but fermentable fruit juice by blending it with nutritive sweeteners, water, with or without salt and peel oil and barley starch not less than 0.25 per cent and any other ingredients suitable to the product and is generally diluted with potable water before serving.

(e) **Ginger Cocktail (Ginger Beer or Ginger ale)** means the product prepared by blending ginger juice and / or its oleoresin or essence with water and nutritive sweeteners and generally diluted with potable water before serving.



**(f) Carbonated Fruit Drink or Fruit Beverage** is the product, which is prepared from fruit juice and water and / or carbonated water and containing sugar, dextrose, invert sugar or liquid glucose either singly or in combination. It may contain peel oil and fruit essences. It may also contain any other ingredients appropriate to the products and used for direct consumption and not diluted with water.

#### **6C4.1.2 Varieties**

Any cultivated variety or type suitable for fruit beverages may be used in the preparation.

#### **6C4.1.3 Style**

The fruit shall be prepared as may be applicable for the respective fruit in normal culinary preparation.

### **6C4.2 INGREDIENTS**

**6C4.2.1 Basic** – basic ingredients are the fruits or fruit juices / pulp / puree or concentrates.

**6C4.2.2 Optional** – nutritive sweeteners (sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), salt, spices, herbs, carbon dioxide gas, etc.

### **6C4.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6C4.4 SPECIAL CHARACTERISTICS**

**6C4.4.1 Minimum Fill** - The container shall be well filled with fruit beverages and the product shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

#### **6C4.4.2 TSS, Acidity, Juice /Pulp Content**

The product shall meet the following requirements;



## FRUIT BEVERAGES

	<b>Fruit Beverages</b>	<b>Min (%) of fruit juice/puree in the final product</b>	<b>Total Soluble Solids (%) Min</b>	<b>Acidity expressed as Citric Acid (%) Max.</b>
1.	Fruit Syrup / Fruit Sherbets	25	65	3.5
2.	Fruit Crush	25	55	3.5
3.	Fruit Squash	25	40	3.5
4.	Fruit Cordial	25	30	3.5
5.	Fruit Drinks / Ready to Serve Beverages			
	a) Lime/ Lemon	5	10	3.5
	b) Other fruits	10	10	3.5
6.	Barley Water (Lemon, Orange, Grape Fruit etc.)	25	30	2.5
7.	Ginger Cocktail (Ginger Beer or Ginger ale)	25	30	3.5
8.	Carbonated Fruit Drink			
	(a) Lime or Lemon juice	5	10	
	(b) Other fruit juice	10	10	

### 6C4.5 QUALITY REQUIREMENTS

**6C4.5.1 General Quality Requirements** –The products shall have the colour and flavour characteristics of the variety or type of fruit used for preparation. The products shall be free from any extraneous matter.





It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6C4.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6C4.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

#### **6C4.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labelling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, food additive, as appropriate, shall be declared as part of the name is in close proximity to the name.



## **6C5 VEGETABLE JUICES / PULP / PUREE**

### **6C5.1 DESCRIPTION**

#### **6C5.1.1 Definition**

Vegetable Juice / Pulp/ Puree is the unfermented but fermentable product obtained from the edible part of sound, clean, appropriately mature and fresh vegetable for direct consumption and processed by heat, in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage.

(a) **Vegetable Pulp-** means the edible portions of the vegetable, mashed, but not reduced to puree.

(b) **Vegetable Puree-** means vegetable ingredient finely divided by sieving, screening or other mechanical means.

#### **6C5.1.2 Vegetable Juice /Pulp/ Puree is obtained as follows:**

(a) **Vegetable Juice /Pulp/ Puree** directly expressed by mechanical extraction process.

(b) **Vegetable Juice /Pulp/ Puree from concentrate** by reconstituting concentrated vegetable juice

A single juice is obtained from one kind of vegetable. A mixed juice is obtained by blending two or more juices or pulps / purées, from different kinds of vegetables.

#### **6C5.1.3 Varieties**

Any cultivated variety or type suitable for product may be used in the preparation.

#### **6C5.1.4 Style**

The vegetable shall be peeled, trimmed, deseeded as may be applicable for the respective fruit in normal culinary preparation.

### **6C5.2 INGREDIENTS**

**6C5.2.1 Basic** – basic ingredients are the vegetables and / or vegetable juice concentrates.



**6C5.2.2 Optional** – nutritive sweeteners –(sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), salt, spices, herbs, etc.

### **6C5.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6C5.4 SPECIAL CHARACTERISTICS**

**6C5.4.1 Minimum Fill** - The container shall be well filled with Vegetable Juice / Pulp/ Puree and the product shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

**6C5.4.2** The product shall have total soluble solids free of added salts not less than 5.0 per cent (m/m).

### **6C5.5 QUALITY REQUIREMENTS**

**6C5.5.1 General Quality Requirements** –The products shall have the colour and flavour characteristics of the variety or type of vegetable used for preparation. The products shall be free from any extraneous matter.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6C5.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.



**6C5.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

**6C5.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labeling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, prepared from fresh vegetable or concentrate as appropriate, shall be declared as part of the name is in close proximity to the name.



## **6C6 FRUIT BASED BEVERAGE MIX / POWDERED FRUIT BASED BEVERAGES**

### **6C6.1 DESCRIPTION**

#### **6C6.1.1 Definition**

Fruit based beverage mix / powered fruit based beverage is the product, in powdered form, intended for use after dilution, obtained by blending fruit solids with nutritive sweeteners and other ingredients appropriate to the product and packed in hermetically sealed containers to prevent spoilage. It may contain vitamin and minerals.

### **6C6.2 INGREDIENTS**

**6C6.2.1 Basic** – basic ingredients are the fruit solids or fruit powder.

**6C6.2.2 Optional** – nutritive sweeteners – (sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), salt, spices, herbs, etc.

### **6C6.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6C6.4 SPECIAL CHARACTERISTICS**

#### **6C6.4.1 It shall meet the following requirements**

- |      |  |                            |
|------|--|----------------------------|
| (i)  | Moisture (m/m)   | Not more than 5.0 per cent |
| (ii) | Fruit juice content (m/m)<br>when reconstituted by dilution<br>according to direction for use on label | Not less than 5.0 per cent |

### **6C6.5 QUALITY REQUIREMENTS**

**6C6.5.1 General Quality Requirements** –The products shall have the colour and flavour characteristics of the variety or type of fruit used for preparation. The products shall be free from any extraneous matter.



It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6C6.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6C6.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

#### **6C6.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labelling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style, as appropriate, shall be declared as part of the name is in close proximity to the name.



## **6C7 MIXED FRUIT AND VEGETABLE JUICES**

### **6C7.1 DESCRIPTION**

#### **6C7.1.1 Definition**

Mixed fruit and vegetable juices means a juice is the unfermented but fermentable product obtained by blending the juice /pulp from the edible part of sound, appropriately mature and fresh fruit and vegetable, and /or juice concentrate for direct consumption and processed by heat, in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage.

#### **6C7.1.2 Fruit and vegetable juice is obtained as follows:**

- (a) **Juice** directly expressed by mechanical extraction process.
- (b) **Juice from concentrate** by reconstituting concentrated juice

#### **6C7.1.3 Varieties**

Any cultivated variety or type suitable for mixed fruits and vegetable juice may be used in the preparation.

#### **6C7.1.4 Style**

- (a) The fruit and vegetable shall be peeled, cored, trimmed, deseeded or pitted as may be applicable for the respective fruit and vegetable in normal culinary preparation.
- (b) Juice / pulp (for example carrot + orange) of fruit and vegetable may mixed in certain proportion suitable to the product

### **6C7.2 INGREDIENTS**

**6C7.2.1 Basic** – basic ingredients are the fruit and / or vegetable and juice /pulp/puree and concentrate.

**6C7.2.2 Optional** – nutritive sweeteners –(sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), salt, spices, herbs, etc.



### **6C7.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6C7.4 SPECIAL CHARACTERISTICS**

**6C7.4.1 Minimum Fill** - The container shall be well filled with mixed fruit and vegetable juice and the product shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

#### **6C7.4.1 Nutritive Sweeteners**

Nutritive sweeteners may be added not exceeding 15g / kg but not exceeding 150g / kg in very acidic mixed juices, the juice in which sugars added more than 15g/kg but not more than 150g/kg the juice is declared as sweetened mixed juice on the label. Product is not required to be called sweetened mixed juice the added nutritive sweeteners are not in excess of 15g / kg.

#### **6C7.4.3 Sweetened Mixed Fruit & Vegetable Juice**

- |      |                            |                            |
|------|----------------------------|----------------------------|
| (i)  | Total Soluble Solids (m/m) | Not less than 15.0 percent |
| (ii) | Acidity as Citric Acid     | Not less than 0.3 percent  |

### **6C7.5 QUALITY REQUIREMENTS**

**6C7.5.1 General Quality Requirements** –The products shall have the colour and flavour characteristics of the variety or type of fruit and vegetable used for preparation. The products shall be free from any extraneous matter.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a





hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6C7.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6C7.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

#### **6C7.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labeling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style-proportion and name of fruit and vegetable, as appropriate, shall be declared as part of the name is in close proximity to the name. If nutritive sweetener has been added (15g to 150g / kg of juice) it may be declare on the label such as sweetened mixed fruit and vegetable juice.



## **6D STANDARD FOR NON-FRUIT BEVERAGES**

### **6D1 NON-FRUIT BEVERAGES**

#### **6D1.1 DESCRIPTION**

##### **6D 1.1.1 Definition**

(a) **Non-Fruit Syrup/ Sherbet** is the non-alcoholic product prepared from harmless herbs, flowers or essences by blending it with nutritive sweeteners, water and with or without salt, aromatic herbs, flowers or essences, peel oil and any other ingredients suitable to the product and are preserved by chemical preservatives. These products are generally diluted with potable water before serving.

(b) **Non-Fruit Beverages or Drinks** is the non-alcoholic product contain no fruit juice, which is prepared from non-fruit syrups and/ or water, means the water, which conforms to the Standards for Packaged Drinking Water and used for direct consumption and not diluted with water.

(c) **Flavoured Non -Fruit Beverages or Drinks** is the non-alcoholic product contain no fruit juice, which is prepared from non-fruit syrups and/ or water, means the water, which conforms to the Standards for Packaged Drinking Water and flavoured by blending it with or without nutritive sweeteners, and with or without salt, flavoured by aromatic herbs, flowers or essences, peel oil and any other ingredients suitable to the product and used for direct consumption and not diluted with water.

(d) **Carbonated Non- Fruit Beverages or Drinks** is the non-alcoholic product contain no fruit juice, which is prepared from non-fruit syrups and carbonated (aerated) water, means the water, which conforms to the Standards for Packaged Drinking Water and with or without flavoured by blending it with or without nutritive sweeteners, and with or without salt, flavoured by aromatic herbs, flowers or essences, peel oil and any other ingredients suitable to the product and used for direct consumption and not diluted with water.



(e) **Non-Fruit Ginger Cocktail (Ginger Beer or Ginger ale)** means the non-alcoholic product prepared by blending ginger oleoresin or essence with water and nutritive sweeteners and generally diluted with potable water before serving.

#### **6D1.1.2 Varieties**

Any kind prepared from harmless herbs, flowers, or essences suitable for non-fruit beverages may be used in the preparation.

#### **6D1.2 INGREDIENTS**

**6D1.2.1 Basic** – basic ingredients are the aromatic herbs, flowers or essences, peel oil, and Rose, Khus, Kewra, Sandal etc.

**6D1.2.2 Optional** – Nutritive sweeteners (sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), salt, spices, herbs, carbon dioxide gas, etc.

#### **6D1.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

#### **6D1.4 SPECIAL CHARACTERISTICS**

**6D1.4.1 Minimum Fill** - The container shall be well filled with non-fruit beverages and the product shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

#### **6D1.4.2 Total Soluble Solids**

The product shall meet the following requirements:



## NON-FRUIT BEVERAGES

Sl. No.	Non-Fruit Beverages	Total Soluble Solids Min. (%)
1.	Non-Fruit Syrup / Sherbets	65
2.	Non-Fruit Syrup / Sherbets for carbonated drinks	30
3.	Flavoured Non-Fruit Beverages or Drinks (Sweetened)*	8
4.	Flavoured Non-Fruit Beverages or Drinks (Non- Sweetened)	NIL
5.	Carbonated Non- Fruit Beverages or Drinks (Sweetened)*	8
6.	Carbonated Non-Fruit Beverages or Drinks (Non- Sweetened)	NIL
7.	Non-Fruit Ginger Cocktail Ginger Beer or Ginger ale)	30

(\* may contain caffeine not exceeding 200ppm and saccharine not exceeding 100ppm)

### 6D1.5 QUALITY REQUIREMENTS

**6D1.5.1 General Quality Requirements** –The products shall have a good colour and pleasant taste and flavour, truly characteristics of the flavouring material used and free from burnt or any other objectionable taints and flavour and crystallization of sugar. It should be of good keeping quality and should show no sign of fermentation. No artificial sweetening agent shall be used.



It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6D1.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6D1.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

#### **6D1.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labeling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, food additive, as appropriate, shall be declared as part of the name is in close proximity to the name. “Non-Fruit” as well as “Contains No Fruit or Fruit Juice” should also be stated on the label.



## **6E STANDARD FOR PICKLED FRUITS AND VEGETABLES**

### **6E1 FRUIT AND VEGETABLE PICKLE**

#### **6E1.1 DESCRIPTION**

##### **6E1.1.1 Definition**

(a) Pickle is the product prepared from sound, clean and edible fruits and or vegetables, with or without seed, spices, aromatic herbs and /or condiments;

(b) processed or treated to produce an acid or acidified product preserved through natural fermentation or acidulants. Depending on the type, appropriate ingredients are added in order to ensure preservation and quality of the product;

(c) processed in an appropriate manner, before or after being hermetically sealed in a container, so as to ensure quality and safety as well as to prevent spoilage; and or

(d) packed with or without a suitable liquid medium (e.g., oil, brine or acidic media) with ingredients appropriate to the type and variety of pickled product, to ensure an equilibrium pH of less than 4.6 and may be further preserved by pasteurization with heat, by other physical means or by chemical preservatives.

##### **6E1.1.2 Varieties**

Any cultivated variety or type suitable for pickles may be used in the preparation.

##### **6E1.1.3 Style**

(a) The product shall be prepared from peeled fruit and / or vegetable for all the following styles:

Whole, Halves, Quarters, Pieces, Slices, Fingers, Diced, Shredded, etc.

(b) Pickle made by single fruit or vegetables and/or in combination of one or more than one fruit and/or vegetable shall be called as mixed fruit or / and vegetable pickle.



#### **6E1.1.4 Types of Pack**

Regular pack-with liquid packing medium added.

Solid pack-without any added packing medium.

#### **6E1.1.5 Packing Media**

1. **Edible oil** – in which oil with spices and condiments is the packing medium;
2. **Brine** – in which common salt solution with spices and condiments is the packing medium;
3. **Acidic Medium** – in which acidic or vinegar or acidic fruit juice form the packing medium.
4. **Mixed Medium** – in which one or more than one medium is mixed in any desired proportion and used for pickle is called mixed medium.

#### **6E1.2 INGREDIENTS**

**6E1.2.1 Basic** – basic ingredients are the fruits and vegetables and garlic, onion, red chilies, turmeric, spices, spices extract / oil, condiments, edible vegetable oil, brine or acidic medium such as vinegar, lime juice, etc.

**6E1.2.2 Optional** –nutritive sweeteners –(sucrose, invert sugar, and dextrose, dried glucose syrup, glucose syrup, honey), dried fruits, malted extract, nuts, pulses, jaggery, etc.

#### **6E1.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

#### **6E1.4 SPECIAL CHARACTERISTICS**

**6E1.4.1 Minimum Fill** - The container shall be well filled with pickled fruit and / or vegetable and the product (including packing medium) shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.



**6E1.4.2 The pickled fruit and vegetable** – Shall be free from copper, mineral acid, alum, and synthetic colours and shall show no sign of fermentation.

**6E1.4.3 Minimum Drained Weight** - The drained weight of the product should not be less than the following percentages, calculated on the basis of the weight of distilled water at 20<sup>0</sup>C, which the sealed container will hold when completely filled.

- (a) Regular pack- Drained weight should not be less than 50 percent of the net content.
- (b) Solid pack- Drained weight should not be less than 70 percent of the net content.

**6E1.2.4 The product shall meet the following requirements: -**

- (a) Fruit and Vegetable pieces shall be practically remains submerged in liquid packing medium (oil, vinegar, brine or mixed).
- (b) The acidity expressed as acetic acid should not be less than 2.0 g / 100 ml in vinegar medium.
- (c) The salt (NaCl) shall not be less than 12 percent in brine.
- (d) Acidity as citric acid when packed in citrus juice shall not be less than 1.2 per cent.
- (e) However, the pH shall remains less than 4.6 of the all types of product.
- (f) If oil added in solid pack pickle its oil content shall not less than 10% by weight and may be declared on the label.

## **6E1.5 QUALITY REQUIREMENTS**

**6E1.5.1 General Quality Requirements** –The pickled fruits and / or vegetables shall have the colour and flavour and taste characteristics of the variety or type of fruit and / or





vegetable used for pickle. The products shall be free from blemish, damage, and disintegration and shall not have stalks, leaves and other extraneous matter.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6E1.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6E1.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

#### **6E1.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labeling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style, type of packing medium, type of pack as appropriate, shall be declared as part of the name is in close proximity to the name.



## **6F STANDARD OF FRUIT AND VEGETABLE CHUTNEY**

### **6F1 FRUIT AND VEGETABLE CHUTENY**

#### **6F1.1 DESCRIPTION**

##### **6F1.1.1 Definition**

Fruit and vegetable chutney is the product prepared from washed, clean, sound fruits and vegetables which have been peeled and are sliced, chopped, shredded or comminuted, then heat processed with basic ingredients before or after being sealed in containers so as to prevent spoilage.

##### **6F1.1.2 Style**

It may be single fruit chutney or in combination of one or more than one fruit and / or vegetable chutney. Single fruit chutney shall be called as mango chutney if made from mango. Mixed fruit and / or vegetable chutney shall be called fruit chutney or mixed fruit chutney, the names of fruits may not be declared on the label.

##### **6F1.1.3 Varieties**

Any cultivated variety or type suitable for fruit and vegetable chutney may be used in the preparation.

#### **6F1.2 INGREDIENTS**

**1.2.1 Basic** – basic ingredients are the fruits and vegetable and their pulp / puree or concentrate.

**1.2.2 Optional** – nutritive sweeteners – (sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), dry fruit, raisins, salt, onion, garlic, acetic acid, vinegar, spices, and other suitable food ingredients.

#### **6F1.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

#### **6F1.4 SPECIAL CHARACTERISTICS**



**6F1.4.1 Minimum Fill** - The container shall be well filled with fruit and or vegetable chutney and the product shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

**6F1.4.2 It shall meet the following requirements:**

- |     |   |                             |
|-----|---|-----------------------------|
| (a) | <b>Fruit and vegetable content (m/m)</b>            | Not less than 40.0 per cent |
| (b) | <b>Total soluble Solids (m/m)</b>                   |                             |
|     | (i) <b>Fruit Chutney</b>                            | Not less than 50.0 per cent |
|     | (ii) <b>Vegetable Chutney</b>                       | Not less than 25.0 per cent |
|     | (iii) <b>Hot and sour chutney</b>                   | Not less than 25.0 per cent |
| (c) | <b>pH</b>   | Not more than 4.6           |
| (d) | <b>Total Ash (m/m)</b>                              | Not more than 5.0 per cent  |
| (e) | <b>Ash insoluble in<br/>Hydrochloric acid (m/m)</b> | Not more than 0.5 per cent  |

## **6F1.5 QUALITY REQUIREMENTS**

**6F1.5.1 General Quality Requirements** –The products shall have the colour and flavour characteristics of the variety or type of fruit and /or vegetable used for chutney. The products shall be free from blemish, damage, and shall not have stalks, leaves and other extraneous matter.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.



**6F1.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6F1.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

**6F1.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labeling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, as appropriate, shall be declared as part of the name is in close proximity to the name.



## **6G STANDARD FOR KETCHUP AND SAUCES**

### **6G1 TOMATO KETCHUP AND TOMATO SAUCE**

#### **6G1.1 DESCRIPTION**

##### **6G1.1.1 Definition**

Tomato Ketchup and sauce (Catsup or Catchup in FDA) is the product prepared from stemmed, fresh, sound, clean and matured red or reddish tomatoes, tomato juice, puree, paste or concentrate and processed by heat, in an appropriate manner, before or after being sealed in a container, or preserved by chemical preservative so as to prevent spoilage.

Product is heated to the required consistency, but tomato concentrate may be diluted with water suitable for the purpose of maintaining the essential composition.

##### **6G1.1.2 Varieties**

Any cultivated variety or type suitable for the product may be used in the preparation.

#### **6G1.2 INGREDIENTS**

**6G1.2.1 Basic** – basic ingredients are the fresh tomatoes, its juice, puree, or paste.

**6G1.2.2 Optional** – nutritive sweeteners (sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), salt, vinegar, acetic acid, onions, garlic, spices, and any other ingredients suitable to the product.

#### **6G1.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

#### **6G1.4 SPECIAL CHARACTERISTICS**

**6G1.4.1 Minimum Fill** - The container shall be well filled with tomato ketchup and sauce and the product shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.



**6G1.4.2 It shall meet the following requirements: -**

- (a) **Total soluble solids (m/m) salt free basis** : Not less than 25.0 per cent
- (b) **Acidity as acetic** : Not less than 1.0 per cent
- (c) **Consistency** : Flow not more than 14 centimeter in 30 seconds at 20<sup>0</sup>C when tested in Bostwick consistometer.

**6G 1.5 QUALITY REQUIREMENTS**

**6G1.5.1 General Quality Requirements** –The tomato ketchup and sauce shall have the colour, flavour and taste characteristics of the variety or type of tomato used for preparation. The product shall not have stalks, leaves and other extraneous matter. No artificial colouring matter shall be present. It shall not contain any other fruit or vegetable substances.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6G1.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6G1.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

**6G1.6 LABELLING REQUIREMENT**



In addition to the requirements of the Standard for the Labeling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, prepared from fresh tomato or concentrate as appropriate, shall be declared as part of the name is in close proximity to the name.



## **6G2 FRUIT AND VEGETABLE SAUCES**

(Other than Tomato Sauce and Soyabean Sauce)

### **6G2.1 DESCRIPTION**

#### **6G2.1.1 Definition**

Fruit and vegetable sauce is a culinary preparation used as an adjunct to food and prepared from stemmed, fresh, sound, clean and matured fruit and vegetable including roots, tubers and rhizomes, or their concentrate. Product is heated to the required consistency, and processed by heat, in an appropriate manner, before or after being sealed in a container, or preserved by chemical preservative so as to prevent spoilage.

#### **6G2.1.2 Varieties**

Any cultivated variety or type suitable for the product may be used in the preparation.

### **6G2.2 INGREDIENTS**

**6G2.2.1 Basic** – basic ingredients are the fresh fruit and vegetable juice, pulp or their concentrate.

**6G2.2.2 Optional** – nutritive sweeteners (sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), dried fruits, salt, vinegar, spices, condiments and any other ingredients suitable to the product.

### **6G2.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6G2.4 SPECIAL CHARACTERISTICS**

**6G2.4.1 Minimum Fill** - The container shall be well filled with fruit and vegetable sauce and the product shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.



**6G2.4.2 It shall meet the following requirements:-**

<b>Name of the Product</b>	<b>Total Soluble Solids (m/m)</b>	<b>Acidity % (as acetic acid)</b>
(1) Chilli Sauce	Not less than 8.0 percent	Not less than 1.0 percent
(2) Fruits/Vegetable Sauces (Sweetened)	Not less than 16.5 percent	Not less than 1.2 percent
(3) Fruits/Vegetable Sauces (Unsweetened)	Not less than 9.0 percent	Not less than 1.2 percent
(4) Culinary Paste/Sauce	Not less than 8.0 percent	Not less than 1.0 percent
(5) Ginger Paste	Not less than 3.0 percent	Not less than 1.0 percent
(6) Miscellaneous Sauce	Not less than 8.0 percent	Not less than 1.0 percent

**6G2.5 QUALITY REQUIREMENTS**

**6G2.5.1 General Quality Requirements** –The fruit and vegetable sauce shall have the colour, flavour and taste characteristics of the variety or type of fruit and / or vegetable used for preparation. The product shall not have stalks, leaves and other extraneous matter.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6G2.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.



**6G2.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

**6G2.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labeling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, prepared from fresh fruit and vegetable or concentrate as appropriate, shall be declared as parts of the name is in close proximity to the name.

**6G2.6.1** The percentage of various fruits and vegetables used in the sauce shall be declared on the label and the label shall not bear any picture of tomatoes.



## **6G3 SOYABEAN SAUCE**

### **6G3.1 DESCRIPTION**

#### **6G3.1.1 Definition**

Soyabean Sauce is the product prepared from wholesome soyabeans, by fermenting soyabean paste in which trypsin inhibitors have been inactivated, processed along with nutritive sweeteners and other flavourings matter and the product preserved by chemical preservative so as to prevent spoilage.

#### **6G3.1.2 Varieties**

Any cultivated variety or type suitable for the product may be used in the preparation.

### **6G3.2 INGREDIENTS**

**6G3.2.1 Basic** – basic ingredients are the wholesome soyabean.

**6G3.2.2 Optional** – nutritive sweeteners (sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), salt, vinegar, spices, condiments and any other ingredients suitable to the product.

### **6G3.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6G3.4 SPECIAL CHARACTERISTICS**

**6G3.4.1 Minimum Fill** - The container shall be well filled with soyabean sauce and the product shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

**6G3.4.2 It shall meet the following requirements:-**

(a) **Total Soluble solids (m/m)**

**Salt free basis**

Not less than 25.0 per cent



- (b) **Acidity as acetic acid** Not less than 0.6 per cent

### **6G3.5 QUALITY REQUIREMENTS**

**6G3.5.1 General Quality Requirements** –The soyabean sauce shall have the colour, flavour and taste characteristics of the variety or type of soyabean used for preparation. The product shall not have any other extraneous matter.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6G3.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6G3.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

### **6G3.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labeling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, as appropriate, shall be declared as parts of the name are in close proximity to the name.



## **6H STANDARD FOR FRUIT JAM, JELLIES, AND MARMALADE**

### **6H1 FRUIT JAM AND FRUIT CHEESE**

#### **6H1.1 DESCRIPTION**

##### **6H1.1.1 Definition**

Fruit Jam or preserve or conserve is the product prepared from a suitable dry fruit or canned, frozen or fresh fruit ingredient whole, pieces, pulp or puree and with or without fruit juice or concentrated fruit juice, and mixed with a carbohydrate sweetener, with or without water, and processed to a suitable consistency, and processed by heat, in an appropriate manner, before or after being sealed in a container, to prevent spoilage.

##### **6H1.1.2 Varieties**

Any cultivated variety or type suitable for fruit jam may be used in the preparation.

##### **6H1.1.3 Style**

A single fruit jam and a combination of two or more fruit may be made and called as mixed fruit jam.

#### **6H1.2 INGREDIENTS**

**6H1.2.1 Basic** – basic ingredients are the fresh fruits, canned, frozen, fruit juice concentrate or otherwise processed or preserved.

**6H1.2.2 Optional** – nutritive sweeteners –(sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), citrus juice, herbs, spices, essential oils, etc.

#### **6H1.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

#### **6H1.4 SPECIAL CHARACTERISTICS**

**6H1.4.1 Minimum Fill** - The container shall be well filled with fruit jam and the product



shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

**6H1.4.2 It shall meet the following requirements:-**

<b>Total Soluble Solids -</b>	Not less than 65.0 %
<b>Fruit Content (m/m) -</b>	
(a) Berry Fruits	Not less than 25.0 %
(b) Other Fruits	Not less than 45.0 %

**6H1.4.3 It shall maintain the pH at a level 2.8 – 3.5**

**6H1.5 QUALITY REQUIREMENTS**

**6H1.5.1 General Quality Requirements** –The fruit jam shall have the colour and flavour and taste characteristics of the variety or type of fruit (s) used for preparation. The product has a good texture. The products shall be free from burnt or other objectionable odour, crystallization, and other extraneous matter.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6H1.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.



**6H1.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

**6H1.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labeling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style as appropriate, shall be declared as part of the name are in close proximity to the name.

**6H1.6.1** When dry fruit is used it shall be clearly declared on the label.



## **6H2 FRUIT JELLY**

### **6H2.1 DESCRIPTION**

#### **6H2.1.1 Definition**

Fruit Jelly is the product prepared from a suitable fruit ingredient, which is practically free from, suspended fruit particles, and mixed with a carbohydrate sweetener, with or without water, and processed to a semi-solid consistency.

#### **6H2.1.2 Varieties**

Any cultivated variety or type suitable for fruit jelly may be used in the preparation.

#### **6H2.1.3 Style**

A single fruit jelly or a combination of permitted two or more fruit may be made and called as mixed fruit jelly.

### **6H2.2 INGREDIENTS**

**6H2.2.1 Basic** – Jelly Fruit ingredient means the juice or aqueous extract obtained from fruit, which is fresh, frozen, canned, concentrated, or otherwise processed or preserved.

**6H2.2.2 Optional** – nutritive sweeteners –(sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), citrus juice, pectin, herbs, spices, essential oils, etc.

### **6H2.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6H2.4 SPECIAL CHARACTERISTICS**

**6H2.4.1 Minimum Fill** - The container shall be well filled with fruit jelly and the product shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.





**6H2.4.2 It shall meet the follow requirements:-**

<b>Total Soluble Solids -</b>	Not less than 65.0 %
<b>Fruit Content (m/m) –</b>	Not be less than 45.0 %

**6H2.4.3 It shall maintain the pH at a level 2.8 – 3.5**

**6H2.5 QUALITY REQUIREMENTS**

**6H2.5.1 General Quality Requirements** –The fruit jelly shall have the colour and flavour and taste characteristics of the variety or type of fruit (s) used for preparation. The product shall be clear sparkling transparent and of an attractive colour. It should not be syrupy, sticky or gummy. The products shall be free from burnt or other objectionable odour, crystallization, and other extraneous matter.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6H2.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6H2.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.



## **6H2.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labeling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style as appropriate, shall be declared as part of the name is in close proximity to the name.

**6H2.6.1** The jelly made from sugar and chemical pectin shall be clearly declared as Non-fruit Jelly. The label on the container of the non-fruit jelly shall bear conspicuously the following namely: -

- **NON-FRUIT JELLY:** Flavoured (incorporating the name of the concerned flavour in the blank); and

- **The product is not made out of any fruit.**



### **6H3 CITRUS MARMALADE**

#### **6H3.1 DESCRIPTION**

##### **6H3.1.1 Definition**

Citrus Marmalade is the product obtained by processing prepared citrus fruit, whole fruit, fruit pulp or fruit puree, with or without citrus juice and the extraction of peel, and processed to a suitable consistency, from which all of the insoluble solids except small proportion of thinly cut peel, have been removed.

##### **6H3.1.2 Varieties**

Any cultivated variety or type suitable citrus marmalade may be used in the preparation.

#### **6H3.2 INGREDIENTS**

**6H3.2.1 Basic** – basic ingredients are the citrus fruits, fresh, processed, or preserved (not by drying) pulp, juices or concentrated fruit juices.

**6H3.2.2 Optional** – nutritive sweeteners –(sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), citrus juice, pectin, herbs, spices, essential oils, etc.

#### **6H3.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

#### **6H3.4 SPECIAL CHARACTERISTICS**

**6H3.4.1 Minimum Fill** - The container shall be well filled with citrus marmalade and the product shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

##### **6H3.4.2 It shall meet the following requirements:-**

**Total Soluble Solids** - should not less than 65.0 %

**Fruit Content (m/m)** – should not be less than 45.0 % (but not included peel as a part of fruit).

**Peel Content** - should not be less than 5.0 %



**6H3.4.3** It shall maintain the pH at a level 2.8 – 3.5

### **6H3.5 QUALITY REQUIREMENTS**

**6H3.5.1 General Quality Requirements** –The citrus marmalade shall have the colour and flavour and taste characteristics of the variety or type of fruit used for preparation. Marmalade should have suspended slices of peel. The product shall be clear sparkling transparent and of an attractive colour. It should not be syrupy, sticky or gummy. The products shall be free from burnt or other objectionable odour, crystallization, and other extraneous matter.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6H3.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6H3.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

### **6H3.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labelling of Prepackaged Processed Fruits and Vegetables the following provisions apply:



The name of the product, variety, as appropriate, shall be declared as part of the name is in close proximity to the name.



## **6I STANDARD FOR PRESERVES AND CANDIED FRUITS**

### **6I1 FRUIT AND VEGETABLE PRESERVES (MURABBA)**

#### **6I1.1 DESCRIPTION**

##### **6I1.1.1 Definition**

Preserve (Murabba) is the product prepared from stemmed, peeled or unpeeled, fresh, sound, clean and ripe fruits and vegetables, appropriately prepared, by impregnating it with nutritive sweeteners to a concentration adequate to preserve.

##### **6I1.1.2 Varieties**

Any cultivated variety or type suitable for preserves (murabba) may be used in the preparation.

##### **6I1.1.3 Style**

(a) The product shall be prepared from prepared fruit and vegetable for all the following styles:

Whole, Cut into Pieces, Grated etc.

(b) Preserve may be single or mixed fruit.

#### **1.1.4 Packing Media -Sugar Syrup**

### **6I1.2 INGREDIENTS**

**6I1.2.1 Basic** – basic ingredients are the fruits and vegetables.

**6I1.2.2 Optional** – nutritive sweeteners –(sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), flavouring matter etc.

### **6I1.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.



#### **6I1.4 SPECIAL CHARACTERISTICS**

**6I1.4.1 Minimum Fill** - The container shall be well filled with preserve (Murabba) and the product (including packing medium) shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

##### **6I1.4.1 It shall meet the following requirements:-**

- (a) **Total Soluble Solids**      Not less than 65.0 per cent (m/m)
- (b) **Fruit Content**              Not less than 55.0 per cent in the final product.

#### **6I1.5 QUALITY REQUIREMENTS**

**6I1.5.1 General Quality Requirements** –The preserve (murabba) shall retain the form and shall be permitted with syrup without shriveling of the individual pieces. It shall be of good keeping quality and attractive colour and it shall be free from brunt and other objectionable flavour and crystallization. The product shall not show any fermentation when examined. When packed in cans, it shall show no positive pressure at sea level.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6I1.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.



**611.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

**611.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labelling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style, as appropriate, shall be declared as part of the name is in close proximity to the name.





## **6I2 CANDIED, CRYSTALLIZED AND GLAZED FRUIT/ VEGETABLE AND FRUIT PEEL**

### **6I2.1 DESCRIPTION**

#### **6I2.1.1 Definition**

- (a) Candied Fruit/ Vegetable and Fruit Peel means the product prepared from peeled or unpeeled, fresh, sound, clean and ripe fruits, vegetables, rhizomes or fruit peel, appropriately prepared, by impregnating it with nutritive sweeteners to a concentration adequate to preserve.
- (b) Crystallized Fruit/ Vegetable/ Rhizome and Fruit Peel means the product prepared from candied product by coating with pure crystallized sugar or by drying the syrup on wet candied product.
- (c) Glazed Fruit/ Vegetable/ Rhizome and Fruit Peel means the product prepared from candied product by coating it with a thin transparent layer of heavy sugar syrup with or without pectin, which has been dried to a more or less firm texture on the product.

#### **6I2.1.2 Varieties**

Any cultivated variety or type suitable for candied, crystallized and glazed fruit/ vegetable and fruit peel may be used in the preparation.

#### **6I2.1.3 Style**

The product shall be prepared from prepared fruit and vegetable for all the following styles:

Whole, Cut into Pieces etc.

## **6I2.2 INGREDIENTS**

**6I2.2.1 Basic** – basic ingredients are the fruits, vegetables, rhizomes and fruit peels

**6I2.2.2 Optional** – nutritive sweeteners –(sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), flavoring matter etc.



### **6I2.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6I2.4 SPECIAL CHARACTERISTICS**

#### **6I2.4.1 Weights and Measures**

Containers shall be as full as practicable without impairment of quality and shall be consistent with a proper declaration of contents for the product.

#### **6I2.4.2 It shall meet the following requirements: -**

(a) **The percentage of total sugar (m/m)** Not less than 70.0

(b) **Percentage of reducing sugar to total sugar** Not less than 25.0

### **6I2.5 QUALITY REQUIREMENTS**

**6I2.5.1 General Quality Requirements** –The candied, crystallized and glazed fruit/vegetable/ rhizomes and fruit peel shall be translucent and not hard or granular. It shall have a good flavour and attractive colour and shall be free from brunt or any other objectionable flavour.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6I2.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.



**612.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

**612.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labelling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style, as appropriate, shall be declared as part of the name is in close proximity to the name.



## **6J STANDARD FOR SOUP POWDERS**

### **6J1 SOUP POWDERS**

#### **6J1.1 DESCRIPTION**

##### **6J1.1.1 Definition**

Soup Powder is the product prepared by mechanical dehydration of sound, clear and of appropriate maturity, fresh fruit / vegetable and / or fruit juice / pulp/ puree or earlier concentrated, dehydrated, frozen or processed fruits & vegetables, by blending with salt, nutritive sweeteners, flavourings and any other food ingredients suitable to the product and packed suitably to prevent spoilage.

##### **6J1.1.2 Varieties**

Any cultivated variety or type suitable for soup powders may be used in the preparation.

##### **6J1.1.3 Style**

Soup powder may be made from fruit and/or vegetable single or in combination of two or more fruit and/or vegetable.

#### **6J1.2 INGREDIENTS**

**6J1.2.1 Basic** – basic ingredients are the fruits and/or vegetables / juice/ pulp / puree or concentrated, dehydrated, frozen or processed fruit and vegetable.

**6J1.2.2 Optional** – Salt, nutritive sweeteners (sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), spices and condiments and any other ingredients suitable to the product.

#### **6J1.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

#### **6J1.4 SPECIAL CHARACTERISTICS**

##### **6J1.4.1 Weights and Measures**



Containers shall be as full as practicable without impairment of quality and shall be consistent with a proper declaration of contents for the product.

**1.4.2 The product shall comply with the following requirements:-**

<b>(a) Moisture Content (m/m)</b>	Not more than 5.0 per cent
<b>(b) Total Soluble Solids (m/m)</b>	
<b>(on dilution on ready to serve basis)</b>	Not less than 5.0 per cent

**6J1.5 QUALITY REQUIREMENTS**

**6J1.5.1 General Quality Requirements** –The soup powder shall have the colour and flavour characteristics of the variety or type of fruit and / or vegetable used for preparation.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6J1.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6J1.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

**6J1.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labelling of Prepackaged Processed Fruits and Vegetables the following provisions apply:



The name of the product, variety, style, as appropriate, shall be declared as part of the name is in close proximity to the name.



## **6K STANDARD FOR FRUIT AND VEGETABLE CEREAL FLAKES**

### **6K1 FRUIT AND VEGETABLE CEREAL FLAKES**

#### **6K1.1 DESCRIPTION**

##### **6K1.1.1 Definition**

Fruit and vegetable cereal flakes are the product prepared by mechanical dehydration of sound, clear and ripe fresh fruit / vegetable and / or fruit juice / pulp/ puree or earlier concentrated, dehydrated, frozen or processed fruits & vegetables, by blending with salt, nutritive sweeteners, flavourings and any other food ingredients, as appropriate to the product and packed suitably to prevent spoilage.

##### **6K1.1.2 Varieties**

Any cultivated variety or type suitable for fruit and vegetable cereal flakes may be used in the preparation.

#### **6K1.2 INGREDIENTS**

**6K1.2.1 Basic** – basic ingredients are the fruits and /or vegetables / pulp / puree or concentrated, dehydrated, frozen or processed fruit and vegetable.

**6K1.2.2 Optional** – Salt, nutritive sweeteners (sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), starch, cereals, pectin, sodium bi-carbonate, and any other ingredients suitable to the product.

#### **6K1.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

#### **6K1.4 SPECIAL CHARACTERISTICS**

##### **6K1.4.1 Weight and Measures**

Containers shall be as full as practicable without impairment of quality and shall be consistent with a proper declaration of contents for the product.

##### **6K1.4.2 The product shall comply with the following requirements:-**



(a) <b>Moisture Content (m/m)</b>	Not more than 2.5 per cent
(b) <b>Acid insoluble Ash (m/m)</b>	Not less than 0.5 per cent
(c) <b>Starch m/m</b>	Not more than 25.0 per cent
(d) <b>Protein</b>	Not less than 3.0 per cent

## **6K1.5 QUALITY REQUIREMENTS**

**6K1.5.1 General Quality Requirements** –The fruit and vegetable cereal flakes shall have the taste and flavour characteristics of the variety or type of fruit and /or vegetable used for preparation. The product shall be crisp but not tough or leathery. No non- – fruit flavouring agents shall be added.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6K1.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6K1.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

## **6K1.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labelling of Prepackaged Processed Fruits and Vegetables the following provisions apply:





The name of the product, variety, as appropriate, shall be declared as part of the name is in close proximity to the name.



## **6L STANDARD FOR BREWED AND NON-FRUIT VINEGAR**

### **6L1 BREWED VINEGAR**

#### **6L1.1 DESCRIPTION**

##### **6L1.1.1 Definition**

Brewed vinegar means a liquid derived from alcoholic and acetous fermentation of any suitable medium such as fruit, malt, molasses, jaggary, sugarcane juice, etc.

#### **6L1.2 INGREDIENTS**

**6L1.2.1 Basic** – basic ingredients are the fruits, malt, molasses, sugarcane juice, etc.

**6L1.2.2 Optional** – Caramel and spices.

#### **6L1.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

#### **6L1.4 SPECIAL CHARACTERISTICS**

**6L1.4.1 Minimum Fill** - The container shall be well filled with brewed vinegar and the product shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

##### **6L1.4.2 It shall conformed to the following standards:-**

- |                               |                                  |
|-------------------------------|----------------------------------|
| (a) <b>Acidity (m/v)</b>      | Not less than 3.75 per cent      |
| (a) <b>Total solids (m/v)</b> | Not less than 1.5 per cent       |
| (b) <b>Total Ash content</b>  | Not less than 0.18 per cent ash. |

#### **6L1.5 QUALITY REQUIREMENTS**

**6L1.5.1 General Quality Requirements** –The brewed vinegar shall have the taste and flavour characteristics of the variety or type of fruit or other raw material used for preparation. It shall not contain sulphuric acid or any other mineral acid. It shall be free from any foreign substance or colouring matter except caramel.



Brewed Vinegar shall not be fortified with acetic acid.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6L1.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6L1.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

#### **6L1.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labelling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, as appropriate, shall be declared as part of the name is in close proximity to the name.



## **6L2 NON-FRUIT VINEGAR**

### **6L2.1 DESCRIPTION**

#### **6L2.1.1 Definition**

Non-Fruit Vinegar is synthetic product and prepared from acetic acid and with or without caramel and spices.

### **6L2.2 INGREDIENTS**

**6L2.2.1 Basic** – basic ingredient is acetic acid.

**6L2.2.2 Optional** – Caramel and spices.

### **6L2.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6L2.4 SPECIAL CHARACTERISTICS**

**6L2.4.1 Minimum Fill** - The container shall be well filled with non-fruit vinegar and the product shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

**6L2.4.2 It shall conformed to the following standards:-**

<b>Acidity (m/v)</b>	Not less than 3.75 per cent
----------------------	-----------------------------

### **6L2.5 QUALITY REQUIREMENTS**

**6L2.5.1 General Quality Requirements** –It shall not contain sulphuric acid or any other mineral acid. It shall be free from foreign material or coloring matter except caramel.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.



To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6L2.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6L2.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

#### **6L2.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labelling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, non-fruit product as appropriate, shall be declared as part of the name is in close proximity to the name. It shall be distinctively labelled as NON-FRUIT VINEGAR – PREPARED FROM ACETIC ACID.



## **6M STANDARD FOR QUICK FROZEN FRENCH FRIED POTATOES**

### **6M1 QUICK FROZEN FRENCH FRIED POTATOES**

#### **6M1.1 DESCRIPTION**

##### **6M1.1.1 Product Definition**

Quick frozen French fried potatoes are the products prepared from clean, mature, sound and free from fungal infection, tubers of the potato. Such tubers shall have been sorted, washed, peeled, cut into strips, and treated as necessary to achieve satisfactory colour and fried in edible vegetable oil or milk fat. The treatment and frying operations shall be sufficient to ensure adequate stability of colour and flavour during normal marketing cycles.

##### **6M1.1.2 Process Definition**

Quick frozen French fried potatoes is the product subjected to a freezing process in appropriate equipment and the quick freezing process shall not be regarded as complete unless and until the product temperature has reached (minus) -18°C at the thermal centre after thermal stabilization.

##### **6M1.1.3 Varieties**

Any cultivated variety or type suitable for quick frozen French fried potatoes may be used.

##### **6M1.1.4 Style**

- (a) Straight cut - strips of potato with practically parallel sides and with smooth surfaces.
- (b) Crinkle cut - strips of potato with practically parallel sides and in which two or more sides have a corrugated surface.

#### **6M1.2 INGREDIENTS**

**6M1.2.1 Basic** – Potatoes and edible vegetable oil or milk fat.

**6M1.2.2 Optional** –Salt, nutritive sweeteners (sucrose, invert sugar, dextrose, dried



glucose syrup, glucose syrup, honey), herbs and spices and any other ingredients suitable to the product.

### **6M1.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

### **6M1.4 SPECIAL CHARACTERISTICS**

**6M1.4.1 Moisture-** the maximum moisture content of the product shall be 76 to 78 per cent.

### **6M1.5 QUALITY REQUIREMENTS**

**6M1.5.1 General Quality Requirements** –The Quick frozen French fried potatoes shall have the uniform size, colour, and flavour characteristics of the variety of potatoes and type of treatment. The products shall be free from blemishes, damaged or broken, insect or fungal infection, and discolouration due to enzymatic reaction. It shall be free from stalks, peels, stems and extraneous matter.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6M1.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6M1.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.



## **6M1.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labelling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style, as appropriate, shall be declared as part of the name is in close proximity to the name.

### **6M1.6.1 Additional Requirements**

The packages shall bear clear directions for keeping from the time they are purchased from the retailer to the time use, as well as directions for cooking.

### **6M1.6.2 Bulk Packs**

In the case of Quick frozen French fried potatoes in bulk the information required above shall either be placed on the container or be given in accompanying documents, except that the name of the product accompanied by the words Quick frozen French fried potatoes may be used, and the name and address of the manufacturer or packer shall appear on the container.

## **6M1.7 PACKAGING**

Packaging used for Quick frozen French fried potatoes shall:

- (a) protect the organoleptic and other quality characteristics of the product.
- (b) protect the product against microbiological and other contamination.
- (c) protect the product from dehydration, and where appropriate, leakage as far as technologically practicable.
- (d) not pass on to the product any odour, taste, colour or other foreign characteristics, throughout the processing (where applicable) and distribution of the product up to the time of final sale.





## **6N STANDARD FOR TABLE OLIVES**

### **6N1 TABLE OLIVES**

#### **6N1.1 DESCRIPTION**

##### **6N1.1.1 Definition**

Table olive is the product obtained from sound clean fruit of proper maturity from Olive tree (*Olea europaea sativa* Hofg, Link) and suitably processed and preserved. The product may be in the form of green olives, olives turning colour before complete ripeness or black olives.

##### **6N1.1.2 Types of olives**

- (a) **Green olives:** Obtained from fruits harvested during the ripening period, prior to colouring and when they have reached normal size. The colour of the fruit may vary from green to straw yellow.
- (b) **Olives turning colour:** Obtained from rose, wine-rose or brown-coloured fruits harvested when turning colour, before the stage of complete ripeness is attained.
- (c) **Black olives:** Obtained from fruits harvested when fully ripe or slightly before full ripeness is reached; they may, according to production region and time of harvesting, be reddish black, violet black, deep violet, greenish black or deep chestnut not only on the peel but also through the flesh.

##### **6N1.1.3 Varieties**

Any cultivated variety or type suitable for table olives may be used in the preparation.

##### **6N1.1.4 Style**

Olives may be offered in one of the following styles, according to type and trade treatment:



Whole olives (without stem, with stem), Stoned (pitted) olives, Stuffed olives, Halved olives, Quartered olives, Divided olives, Sliced olives, Chopped or Minced olives, Broken olives, Salad olives, Olives with capers.

**6N1.1.5 Trade Treatment** – olives can be treated as follows:

- (a) by natural fermentation;
- (b) thermal processing ; or
- (c) by addition of preservative.

**6N1.1.6 Packing Brines**

**Minimum sodium chloride contents and maximum pH limits of brine, according to type and treatment:**

Sl.No.	Type and treatment	Minimum sodium chloride content	Maximum pH limit
(A)	<b>Green olives in brine, treated or untreated</b>		
	(i) in hermetically-sealed containers	5%	4.0
	(ii) in non-hermetically-sealed containers	6%	4.5
(B)	<b>Seasoned green olives</b>		
	(i)hermetically-sealed containers	4%	4.0
	(ii) in non-hermetically-sealed containers	6%	4.5
(C)	<b>Olives turning colour - all treatments</b>	6%	-
(D)	<b>Black Olives</b>		
	(i) in brine	7%	-
	(ii) in dry salt	10%	-



## **6N1.2 INGREDIENTS**

**6N1.2.1 Basic** – basic ingredients are the olives as mention in 6N1.1.2.

**6N1.2.2 Optional** – water, salt, vinegar, olive oil, nutritive sweeteners, spices and extracts thereof and aromatic herbs and stuffing material like pimiento, onion, almond, celery, anchovy, capers, etc. or pastes prepared there from.

## **6N1.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

## **6N1.4 SPECIAL CHARACTERISTICS**

**6N1.4.1 Minimum Fill** - The container shall be well filled with table olives and the product (including packing medium) shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

The weight of the product contained in each pack shall be the maximum allowed by the processing method, without being prejudicial to the quality of the contents.

### **6N1.4.2 1 It shall conform to the following requirements: -**

- |     |                      |                                     |
|-----|----------------------|-------------------------------------|
| (a) | Damaged matter       | Not more than 2.0 per cent by count |
| (b) | Insect damaged Units | Not more than 2.0 per cent by count |
| (c) | Foreign matter       | Not more than 1 unit/Kg             |

#### **Explanations:**

‘Damage Units’ means units showing imperfection or damage to the mesocarp, which may or may not be associated with superficial marks;

‘Insect Damaged Units’ means units showing insect holes or deformed fruits or those with abnormal stains or whose mesocarp has an abnormal aspect;



'Foreign matter' means any vegetable matter not injurious to health such as leaves, stem etc.

## **6N1.5 QUALITY REQUIREMENTS**

**6N1.5.1 General Quality Requirements** –The product shall be of uniform colour except seasoned olives and olives turning colour free from any foreign matter, off flavour and taste and abnormal fermentation.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6N1.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6N1.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

## **6N1.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labelling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style, trade treatment as appropriate, shall be declared as part of the name are in close proximity to the name.



## **60 SATNADRD FOR ASEPTIC PROCESSED AND PACKAGED FRUITS AND VEGETABLES**

### **601 ASEPTICALLY PROCESSED AND PACKAGED FRUITS AND VEGETABLES**

#### **601.1 DESCRIPTION**

##### **601.1.1 Definition**

Aseptic Processing and Packaging means the processing and packaging of a commercially sterile product into sterilized containers followed by hermetic sealing with a sterilized closure in a manner which prevents viable microbiological recontamination of the sterile product.

##### **601.1.2 Products to be Aseptically Processed and Packaged**

Fruit juice /pulp or puree, nectars, fruit beverages such as ready to serve drinks, fruit and vegetable concentrates etc.

##### **601.1.3 INGREDIENTS**

Their ingredient is similar as mentioned in their respective products standard.

#### **601.2 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

#### **601.3 SPECIAL CHARACTERISTICS**

**601.3.1 Minimum Fill** - The container shall be well filled with product (s) and the product shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

**601.3.2 Their requirements are similar as mentioned in their respective products standard.**

##### **601.3.3 Packaging**



Their packaging system and material are different than in others products and they should not transmit their odour or colour to the products packed in them.

#### **601.4 QUALITY REQUIREMENTS**

##### **601.4.1 General Quality Requirements – Their requirements are similar as mentioned in their respective products standard.**

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**601.4.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**601.4.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

#### **601.5 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labelling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style, as appropriate, shall be declared as part of the name is in close proximity to the name.



## **6P STANDARD FOR IRRADIATED PROCESSED FRUITS AND VEGETABLES**

### **6P1 IRRADIATED PROCESSED FRUITS AND VEGETABLES**

#### **6P1.1 SCOPE**

This standard applies to fruits and vegetables processed by ionizing radiation that are used in conjunction with applicable Standard of Code of Practice of Hygiene for Processed Fruits and Vegetables. It does not apply to products exposed to dose imparted by measuring instruments used for inspection purposes.

#### **6P1.2 GENERAL REQUIREMENTS FOR THE PROCESS**

##### **6P1.2.1 Radiation Sources**

The following types of ionizing radiation may be used:

- a) Gamma rays from the radionuclides  $^{60}\text{Co}$  or  $^{137}\text{Cs}$ ;
- b) X-rays generated from machine sources operated at or below an energy level of 5 MeV;
- c) Electrons generated from machine sources operated at or below an energy level of 10 MeV.

##### **6P1.2.2 Absorbed Dose**

For the irradiation of any processed fruit & vegetable, the minimum absorbed dose should be sufficient to achieve the technological purpose and the maximum absorbed dose should be less than that which would compromise consumer safety, wholesomeness or would adversely affect structural integrity, functional properties, or sensory attributes. The maximum absorbed dose delivered to a processed fruit & vegetable should not exceed 10kGy, except when necessary to achieve a legitimate technological purpose.

##### **6P1.2.3 Facilities and Control of the Process**

Radiation treatment of foods should be carried out in facilities licensed and registered for this purpose by the competent authority.



**6P1.2.4** The facilities shall be designed to meet the requirements of safety, efficacy and good hygienic practices of food processing.

**6P1.2.5** The facilities should be staffed by adequate, trained and competent personnel.

**6P1.2.6** Control of the process within the facility should include the keeping of adequate records including quantitative dosimetry.

**6P1.2.7** Facilities and records should be open to inspection by appropriate authorities.

**6P1.2.8** Control should be carried out in accordance with the *Recommended International Code of Practice for Radiation Processing of Foods* (CAC/RCP 19-1979, Rev. 1 – 2003 Appendix - D).

### **6P1.3 HYGIENE OF IRRADIATED PROCESSED FRUIT AND VEGETABLES**

The irradiated food should be prepared, processed, and transported hygienically in accordance with the provisions of the Standard Code of Practice of Hygiene for Processed fruits and Vegetables.

Any relevant national public health requirement affecting microbiological safety and nutritional adequacy applicable in the country in which the food is sold should be observed.

### **6P1.4 TECHNOLOGICAL REQUIREMENTS**

#### **6P1.4.1 General Requirement**

The irradiation of fruit and vegetable products is justified only when it fulfils a technological requirement and/or is beneficial for the protection of consumer health. It should not be used as a substitute for good hygienic and good manufacturing practices or good agricultural practices.





#### **6P1.4.2 Product Quality and Packaging Requirements**

The doses applied shall be commensurate with the technological and public health purposes to be achieved and shall be in accordance with good radiation processing practice. Foods to be irradiated and their packaging materials shall be of suitable quality, acceptable hygienic condition and appropriate for this purpose and shall be handled, before and after irradiation, according to good manufacturing practices taking into account the particular requirements of the technology of the process.

#### **6P1.5 RE-IRRADIATION**

Except for foods with low moisture content (dehydrated fruits and vegetables, fruit cereal flakes, powders and other such commodities) irradiated for the purpose of controlling insect reinfestation, foods irradiated in accordance with Sections 6P1.2 and 6P1.4 of this standard should not be re-irradiated.

For the purpose of this standard, food is not considered as having been re-irradiated when: (a) the irradiated food is prepared from materials which have been irradiated at low dose levels for purposes other than food safety, e.g. quarantine control, prevention of sprouting of roots and tubers; (b) the food, containing less than 5% of irradiated ingredient, is irradiated; or when (c) the full dose of ionizing radiation required to achieve the desired effect is applied to the food in more than one increment as part of processing for a specific technological purpose.

The cumulative maximum absorbed dose delivered to a food should not exceed 10 kGy as a result of irradiation except when it is necessary to achieve a legitimate technological purpose, and should not compromise consumer safety or wholesomeness of the food.

#### **6P1.6 POST IRRADIATION VERIFICATION**

When required and where applicable, analytical methods for the detection of irradiated foods may be used to enforce authorization and labelling requirements. The analytical methods used should be those adopted by the Codex Alimentarius Commission.



## **6P1.7 LABELLING**

### **6P1.7.1 Inventory Control**

For irradiated products, whether prepackaged or not, the relevant shipping documents shall give appropriate information to identify the registered facility which has irradiated the food, the date(s) of treatment, irradiation dose and lot identification.

### **6P1.7.2 Prepackaged Products Intended for Direct Consumption**

The labelling of prepackaged irradiated products should indicate the treatment and in all aspects should be in accordance with the relevant provisions of the Standard for the Labelling of Prepackaged Processed Fruits and Vegetables.

### **6P1.7.3 Foods in Bulk Containers**

The declaration of the fact of irradiation should be made clear on the relevant shipping documents. In the case of products sold in bulk to the ultimate consumer, the international logo and the words “irradiated” or “treated with ionizing radiation” should appear together with the name of the product on the container in which products are placed.

NOTE: - At present Govt. of India has approved the irradiation of fresh fruits and vegetables (Mango, Potatoes, Onions) and as an when Govt. approves the irradiation of processed fruits and vegetables or its processing or preservation then this standard will hold good and will be applicable.



## **6Q STANADRD FOR RETORT POUCH PRODUCTS**

### **6Q1 RETORT POUCH PRODUCTS**

#### **6Q1.1 DESCRIPTION**

##### **6Q1.1.1 Definition**

**Retort Pouch-** To define the product, we could say that it is a heat-resistant bag made of laminated plastic films or foil. It is then heat-sealed and sterilized by pressure cooking in a retort (autoclave) to yield commercially sterilized state of foods. As a result, the retort pouch contains heat-treated food, which is safe from microorganisms.

The retort pouch generally consists of an outer layer of polyester or nylon for printability and toughness/protection, a middle aluminium-foil layer that functions as the principal oxygen and water vapour barrier, and an inner or food-contact layer of a heat sealant material such as polypropylene. In recent years, the aluminium foil has been replaced to some degree by silica or glass coating to provide oxygen barrier, product visibility, and microwavability.

**Retort processing** is generally carried out for low acid foods with a pH more than 4.5 at a temperature of 121.1degree centigrade using moist heat. During heat treatment, undesirable spoilage as well as pathogenic microorganisms are inactivated / killed and thereby the food products become commercially sterile. Generally, the process schedule is optimized based on nutritivity, quality attributes like colour, texture and taste as well as thermal resistance of microorganisms. Retort pouch processed foods have shelf-stability of one year under ambient condition and do not require for refrigerated storage.

##### **6Q1.1.2 Products to be packaged in the Retort Pouches**

Any fruit and vegetable products, which have to be processed thermally, can be processed in the retort pouches.



## **6Q1.2 INGREDIENTS**

Their ingredients are similar as mentioned in their respective products standard.

## **6Q1.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

## **6Q1.4 SPECIAL CHARACTERISTICS**

**6Q1.4.1 Minimum Fill** - The container shall be well filled with fruit and vegetable products and the product (including packing medium) shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

**6Q1.4.2 Their requirements are similar as mentioned in their respective products standard.**

### **6Q1.4.3 Packaging**

Their packaging system and packaging material are different than in others products and they should not transmit their odour and /or colour to the products packed in them. Aluminum foil based retort pouch – they are made of PET / Aluminum foil/ Nylon / CPP

## **6Q1.5 QUALITY REQUIREMENTS**

**6Q1.5.1 General Quality Requirements – Their requirements are similar as mentioned in their respective products standard.**

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall



not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6Q1.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6Q1.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

#### **6Q1.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labeling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style, type of packing medium, type of pack as appropriate, shall be declared as part of the name is in close proximity to the name.



## **6R STANDARD FOR FRUIT SHAKES**

### **6R1 FRUIT SHAKES**

#### **6R1.1 DESCRIPTION**

##### **6R1.1.1 Definition**

Fruit shakes are the unfermented but fermentable liquid obtained from the edible part of sound, appropriately mature and fresh fruit or fruit juice / pulp or concentrate combining with natural milk, nutritive sweeteners and other ingredients appropriate to the product for direct consumption and processed by heat, in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage.

##### **6R1.1.2 Varieties**

Any cultivated variety or type suitable for fruit shake may be used in the preparation.

##### **6R1.1.3 Style**

The fruit shake shall be called fruit shake or the name of a fruit may be affix prior to the fruit shake.

#### **6R1.2 INGREDIENTS**

**6R1.2.1 Basic** – basic ingredients are the fruits such as Mango, Banana, Apple, Guava, Bael fruit etc, and / or fruit juice concentrates and natural milk.

**6R1.2.2 Optional** –nutritive sweeteners –(sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), flavouring substances, etc.

#### **6R1.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

#### **6R1.4 SPECIAL CHARACTERISTICS**

**6R1.4.1 Minimum Fill** - The container shall be well filled with fruit shake and the product shall occupy not less than 90% of the water capacity of the container. The water



capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

**6R1.4.2 The product shall meet the following requirements;**

One part of fruit should be mixed with two parts of natural milk and nutritive sweeteners may be added to taste.

No preservative shall be added. No artificial colouring matter shall be present.

**6R1.5 QUALITY REQUIREMENTS**

**6R1.5.1 General Quality Requirements** –The products shall have the colour and flavour characteristics of the variety or type of fruit used for preparation. The products shall be free from any extraneous matter.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6R1.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6R1.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

**6R1.6 LABELLING REQUIREMENT**

In addition to the requirements of the Standard for the Labeling of Prepackaged



Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style, as appropriate, shall be declared as part of the name is in close proximity to the name.





## **6S STANDARD FOR FRUIT LASSI**

### **6S1 FRUIT LASSI**

#### **6S1.1 DESCRIPTION**

##### **6S1.1.1 Definition**

Fruit lassi is the unfermented but fermentable liquid obtained from the edible part of sound, appropriately mature and fresh fruit or fruit juice / pulp or concentrate combining with curd or whey, nutritive sweeteners and other ingredients appropriate to the product for direct consumption and processed by heat, in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage.

##### **6S1.1.2 Varieties**

Any cultivated variety or type suitable for fruit lassi may be used in the preparation.

##### **6S1.1.3 Style**

The fruit lassi shall be called fruit lassi or the name of a fruit may be affix prior to the fruit lassi and it may be either sweet or salty.

#### **6S1.2 INGREDIENTS**

**6S1.2.1 Basic** – basic ingredients are the fruits such as Mango, Banana, Apple, Guava, Bael fruit etc, and / or fruit juice concentrates and curd or whey.

**6S1.2.2 Optional** –nutritive sweeteners –(sucrose, invert sugar, dextrose, dried glucose syrup, glucose syrup, honey), salt, flavouring substances, etc.

#### **6S1.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

#### **6S1.4 SPECIAL CHARACTERISTICS**

**6S1.4.1 Minimum Fill** - The container shall be well filled with fruit lassi and the product shall occupy not less than 90% of the water capacity of the container. The water



capacity of the container is the volume of distilled water at 20°C, which the sealed container will hold when completely filled.

**6S1.4.2 The product shall meet the following requirements;**

One part of fruit should be mixed with two parts of curd or whey and nutritive sweeteners and / or salt may be added to taste.

No preservative shall be added. No artificial colouring matter shall be present.

**6S1.5 QUALITY REQUIREMENTS**

**6S1.5.1 General Quality Requirements** –The products shall have the colour and flavour characteristics of the variety or type of fruit used for preparation. The products shall be free from any extraneous matter.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6S1.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6S1.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.



## 6S1.6 LABELLING REQUIREMENT

In addition to the requirements of the Standard for the Labeling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style, as appropriate, shall be declared as part of the name is in close proximity to the name.

## 6T STANDARD FOR FREEZE DRIED FRUITS AND VEGETABLES

### 6T1 FREEZE DRIED FRUITS AND VEGETABLES

#### 6T1.1 DESCRIPTION

##### 6T1.1.1 Definition

Freeze-drying is the process of dehydrating frozen fruit and vegetable under a vacuum so the moisture content changes directly from a solid to a gaseous form without having to undergo the intermediate liquid state through sublimation, and product maintains its original size and shape with a minimum of cell rupture.

##### 6T1.1.2 Varieties

Any cultivated variety or type suitable for freeze dried product may be used in the preparation.

##### 6T1.1.3 Style

The product shall be prepared from peeled fruit and vegetable for the following styles:

Sl. No.	Freeze Dried Vegetables	Size	Freeze Dried : Fresh Prepared Ratio
1	Asparagus	3-5mm	1:12
2	Broccoli	1/2" Dice and Beads	1:13
3	Corn	whole	1:4
4	Green Onion	1/8" Slice	1:14
5	Mushrooms	1/2x1/2x1/8" Dice and 4 – 5 mm	1:11



		slices	
6	Peas	whole	1:3
7	Shallot	1/8" Dice	1:13
8	Spinach	1/4" Dice and 1" Dice	1:11
	<b>Freeze Dried Herbs and Spices</b>		
1	Basil	Course Cut and Fine Cut	1:14
2	Chive	Rings	1:8
3	Cilantro	Course Cut and Fine Cut	1:14
4	Peppercorn, green	whole	
	<b>Freeze Dried Fruits</b>		
1	Banana	Dice, Slice, and Powder	1:7
2	Mango	3/8" Dice	1:8
3	Raspberry	Whole and Powder	1:7
4	Strawberry	Dice, Slice, and Powder	1:10

## **6T1.2 INGREDIENTS**

**6T1.2.1 Basic** – basic ingredients are the fruits and vegetables.

## **6T1.3 FOOD ADDITIVES**

The product may contain food additives permitted in Appendix B.

## **6T1.4 SPECIAL CHARACTERISTICS**

### **6T1.4.1 Weights and Measures**

Containers shall be as full as practicable without impairment of quality and shall be consistent with a proper declaration of contents for the product.

**6T1.4.2 Moisture content** Not more than 6% by weight



## **6T1.5 QUALITY REQUIREMENTS**

**6T1.5.1 General Quality Requirements** –The dried product will be the same size and shape as the original frozen material and will be found to have excellent stability and convenient reconstitution when placed in water (allow 3 – 5 minutes after adding boiling water). Freeze-dried products will maintain nutrients, colour, flavour, and texture often indistinguishable from the original product. No preservatives shall be added. No artificial colouring matter shall be present.

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Standard Code of Practice of Hygiene for Processed Fruits and Vegetables.

To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter, from microorganisms in amounts, which may represent a hazard to health; from parasites, which may represent a hazard to health; and shall not contain any substance originating from microorganisms in amounts, which may represent a hazard to health.

**6T1.5.2 Microbial Status** - The products shall conform to the microbiological requirements given in Appendix C.

**6T1.5.3 Heavy Metals** - The products shall conform to the heavy metals requirements given in Appendix A.

## **6T1.6 LABELING REQUIREMENT**

In addition to the requirements of the Standard for the Labeling of Prepackaged Processed Fruits and Vegetables the following provisions apply:

The name of the product, variety, style, as appropriate, shall be declared as part of the name is in close proximity to the name.



## **6U STANDARD FOR MISCELLANEOUS FRUIT AND VEGETABLE PRODUCTS**

If any person or manufacture want to manufacture an innovative, proprietary or any unspecified fruit and vegetable products, one has to apply to FPO. The detail of such products in the following format has to be got approved by the Technical Committee - FPO Advisory Committee / Food Authority / Government of India before being manufacture.

### **6U1 FORMAT**

- 1.0 Name of the product
- 1.1 DESCRIPTION
  - 1.1.1 Definition
  - 1.1.2 Variety
  - 1.1.3 Style
  - 1.1.4 Type of pack
  - 1.1.5 Packing media
- 1.2 INGREDIENTS
  - 1.2.1 Basic
  - 1.2.2 Optional
- 1.3 FOOD ADDITIVES
- 1.4 SPECIAL CHARACTERISTICS
  - 1.4.1 Minimum Fill /Weights and Measures
  - 1.4.2 Drained weight, etc
- 1.5 QUALITY REQUIREMENTS
  - 1.5.1 General quality requirements
    - TSS
    - Acidity
  - 1.5.2 Microbial status
  - 1.5.3 Heavy Metals
- 1.6 LABELING REQUIREMENTS



## **6V PACKAGING OF FRUIT AND VEGETABLE PRODUCT**

Fruit and vegetable products shall be packed in such suitable containers as are described below and all containers shall be securely packed and sealed –

- (a) Canned fruits, juices and vegetables – Sanitary top cans made from suitable kind of tin plate or aluminum shall be used for canning fruits, juices, vegetables etc.
- (b) Bottled fruits, juices and vegetables – Bottles and jars capable of giving hermetic seal shall be used.
- (c) Juices, squashes, crush, cordials, syrups, barley waters and other beverages shall be packed in clean glass or plastic bottles and securely sealed. These products when frozen and sold in the form of ice shall be packed in suitable cartons or laminates. Juices or pulp may be packed in wooden barrels glass or plastic carboys when sulphited.
- (d) Preserves, jams, jellies and marmalades – New cans, new cannisters, clean jars, bottles, chinaware jars or aluminium or rigid plastic containers may be used for packaging these products and it shall be securely sealed.
- (e) (i) Pickles – Clean bottles, jars, wooden casks, tin containers covered from inside with polyethylene lining of minimum 250 guage or suitably lacquered cans and plastic container shall be used.
  - (ii) Tomato ketchup and sauces – Clean bottles shall be used.
  - (iii) Vinegar and chutney – clean bottles or wooden casks may be used.
- (f) Candied fruits and peels and dried fruits, and vegetables – Paper bags, card board or wooden boxes, new tins, bottles, jars, aluminium, flexible or laminates, plastic rigid containers or other suitable approved containers shall be used.



- (g) The fruit and vegetable products can be packed in all aseptic, retortable and flexible packaging material having food grade quality conforming to the specifications laid down by Bureau of Indian Standards (BIS).
- (h) These containers should not pass their odour, colour or any other substances (toxic) to the product packed in them.
- (i) It shall protect the product from recontamination and keep the food products safe for human consumption
- (j) Based on Information from manufacturer of aseptic bags and retort pouches, we understand from them that there is not much migration of extractable organic chemicals from these packages into the products. The plastic materials either in single layer or multilayer which comes in contact with food product, the materials are required to be tested for Extractability study (global migration) as per Indian Standard (IS-9845-1998) – to determine the residual content which might migrate from packaging materials to food product during storage under specified condition.

In general, the limit of the residual content through migration is indicated as 60 mg/kg (maximum) for foodstuff, but in case of liquid foodstuff the limit is 60mg/ltr (maximum). In case of aseptic bag and retort pouch, polyethylene and its copolymers are normally used as contact layer with the foodstuff and hence, this particular test is normally undertaken. The following BIS standard may be considered as reference:

- a. IS: 10910-1984 - Specification for polypropylene and its copolymers for its safe use in contact with food stuffs, pharmaceuticals and drinking water.
- b. IS 10146 –1982 – Specification for polyethylene for its safe use in contact with foodstuffs, pharmaceuticals and drinking water.





## **6W STANDARD FOR THE LABELLING OF PREPACKAGED PROCESSED FRUIT AND VEGETABLE PRODUCTS**

### **Every Prepackaged product to carry a label**

#### **6W1 GENERAL AND MANDATORY INFORMATION**

**6W1.1** Prepackaged product shall not be described or presented on any label or in any label or in any labelling manner that is false, misleading or deceptive or is likely to create an erroneous impression regarding its character in any respect.

**6W1.2** Label in prepackaged product shall be applied in such a manner that they will not become separated from the container.

**6W1.3** Contents on the label shall be clear, prominent, indelible and readily legible by the consumer under normal condition of purchase and use.

**6W1.4** Where the container is covered by a wrapper, the wrapper shall carry the necessary information or the label on the container shall be readily legible through the outer wrapper or not obscured by it.

#### **6W2 MANDATORY LABELING OF PREPACKAGED PROCESSED FRUIT AND VEGETABLE PRODUCTS**

Every package of product shall carry the following information on the label:

##### **6W2.1 THE NAME OF THE PRODUCT**

The name of the product shall include trade name or description of product contained in the package.

##### **6W2.2 LIST OF INGREDIENTS**

A list of ingredients shall be declared on the label and shall be in the following manner: -



1. the list of ingredients shall contain an appropriate title, such as the term “ingredients”.
2. the names of ingredients used in the product shall be mentioned in descending order in respect of their composition, by weight or volume, as the case may be;
3. every package of product sold as a mixture or combination shall disclose the ingoing percentage, by weight or volume as may be appropriate, of any ingredient at the time of the manufacture of the product (including compound ingredients or categories of ingredients) and if such ingredient, -
  - a. is emphasized as present on the label through words or pictures or graphics; or
  - b. is essential to characterize the product in order to distinguish the product from other categories of product with which it may be confused; or
  - c. is emphasized as ingredients in the name of the product; or
  - d. the disclosure of which is deemed to be necessary to enhance the health of consumers or to prevent consumers from being deceived; or
  - e. is the subject of an express claim about the presence of any fruits, vegetables, and whole grains or added sugars:

**Provided** that the above disclosure is not required where ingredient comprises less than two per cent of the total weight of the product and has been used for the purposes of flavouring;

4. the complete nutritional information per 100gm of the product shall be given on the label containing the following: -
  - a. information on energy value shall be expressed in Kcal per 100gm or per 100ml;
  - b. information on the amounts of protein, carbohydrate and fat in the product shall be expressed in gm per 100gm or per 100ml;
  - c. the amount and /or type of fatty acids (including amount of saturated fatty acids,



- d. polyunsaturated fatty acids, monounsaturated fatty acids and trans fatty acids) and cholesterol in gm per 100gm or per 100ml;
  - e. numerical information in vitamins and minerals shall be expressed in metric units per 100gm or per 100ml;
5. where an ingredient is itself the product of two or more ingredients, such a compound ingredient may be declared, as such, in the list of ingredients, and shall be accompanied by a list in brackets, of its ingredients in descending order of weight:
- a. **Provided** that where a compound ingredient for which a name has been established in these rules constitutes less than 5 percent of the product, the ingredients other than food additives which serve a technological function in the finished product need not to be declared;
6. The added water shall be declared in the list of ingredients except when the water forms part of an ingredient such as brine, syrup or broth used in a compound product and declared as such in the list of ingredients:
- a. **Provided** that water or other volatile ingredients evaporated in the course of manufacture need not to be declared;
  - b. **Provided Further** that in the case of dehydrated or condensed product, which are intended to be reconstituted by the addition of water only, the ingredients may be listed in order of weight in the reconstituted product and shall contain a statement such as “ingredients” of the product when prepared in accordance with the directions on the label:

**Note:** A specific name shall be used for ingredients in the list of ingredients except that:

- (i) for ingredients in the respective classes, the following class titles may be used, namely:  
“edible fats, edible oils, spices and condiments, edible starches (except modified starches), vitamin and minerals, salts. However in



case of curry powder or mixed masalas whole or other such masala containing spices, either whole or powdered as major ingredient the names of spices used in the product be mentioned on the label in descending order their composition by weight”.

- (ii) for substances falling in the respective classes and appearing in the list of food additives permitted for use in product generally, the following class titles may be used, namely, antioxidants, anticaking agents, flavour improvers sequestering and buffering agents, bleaching agents, emulsifying and stabilizing agents, antifoaming agents, preservatives, colours, flavours, vitamins, minerals and edible gums:
- **Provided** also that when combines declaration of colours and flavours are given, the international numerical identification number of colours used shall also be indicated either under the list of ingredients or along with the declaration:
  - **Provided** also that milk fat or vegetable oil or extract thereof shall be declared by their specific names.

## **6W2.3 NET CONTENTS AND DRAINED WEIGHT**

**6W2.3.1**The net weight or number or measure of volume of contents as the circumstances may require shall be declared on the label.

**6W2.3.2** The net contents shall be declared, -

- (i) for liquid product, by volume;
- (ii) for solid product, by weight;
- (iii) for semi-solid and viscous product, either by weight or volume.

**6W2.3.3** In addition to the declaration of net contents, a fruit and vegetable product



packed in liquid medium shall carry a declaration in the metric system of the drained weight of the product:

- 1. Provided** that liquid medium will include but shall not be limited to water, aqueous solutions of sugar and salt, fruit and vegetable juices in canned fruits, or vegetables only, or vinegar, either singly or in combination.

#### **6W2.4 NAME AND ADDRESS**

**6W2.4.1** The name and complete address of the manufactures and the manufacturing unit, if these are located at different places and in case the manufactures is not the packer or bottler, the name and complete address of the packing or bottling unit as the case may be;

**6W2.4.2** Where an article of fruit and vegetable is manufactured or packed or bottled by a person or a company under the writer authority of some other manufacturer or company, under his or its brand name, the label shall carry the name and complete address of the manufacturing or packing or bottling unit as the case may be, and also the name and complete address of the manufacturer or the company, for and on whose behalf it is manufactured or packed or bottled;

**6W2.4.3** Where and article of product is imported into India, the package of product shall also carry the name and complete address of the importer in India:

- 1. Provided** that where any product article manufactured outside India is packed or bottled in India, the package containing the such fruit and vegetable product shall also bear on the label, the name of the country of origin of the fruit and vegetable product and the name and complete address of the importer and the premises of the packing or bottling in India.



**6W2.5 LOT/ CODE/ BATCH IDENTIFICATION**

A batch number or code number or lot number, which is a mark of identification by which the fruit and vegetable product can be traced in the manufacture and identified in the distribution, shall be given on the label.

**6W2.6 DATE OF MANUFACTURE OR PACKING**

The date, month and year in which the commodity is manufactured, packed or pre – packed, shall be given on the label:

**6W2.6.1 Provided** that the month and the year of manufacture, packing or pre - packing shall be given if the “Best Before Date” of the products is more than three months:

**6W2.6.2 Provided Further** that in case any package contains commodity, which the commodity is manufactured or prepared or prepackaged shall be, mentioned on the label.

**6W2.6.3** The month and year in capital letters, up to which the product is the best for consumption, in the following manner, namely:-

“BEST BEFORE.....MONTHS AND YEAR

OR

“BEST BEFORE.....MONTHS FROM  
PACKAGING

OR

“BEST BEFORE.....MONTHS FROM  
MANUFACTURE



OR

“BEST BEFORE UP TO MONTH AND YEAR”.....

OR

“BEST BEFORE WITHIN .....MONTHS FROM THE DATE OF PACKAGING/MANUFACTURE

- Note:** (i) Blank be filled up  
(ii) Month and year may be used in numerals.  
(iii) Year may be given in two digits

1. **Provided Also** that in case of any bottle containing soft drink, carbonated water or ready-to-serve fruit beverages, the declarations with regard to addition of fruit pulp and fruit juice as well as the “date of manufacture” and “best before date” shall invariably appear on the body of the bottle.
2. **Provided Also** that declaration of best before date for consumption shall not be applicable to:

(a) Alcoholic beverages (cider and wines) containing 10 per cent or more by volume of alcohol

#### **6W2.7 INSTRUCTIONS FOR USE**

Instructions for use, including reconstitution, where applicable, shall be included on the label, if necessary, to ensure correct utilization of the fruit and vegetable product.



## **6W2.8 IRRADIATED FOODS**

**6W2.8.1** The label of a product, which has been treated with ionizing radiation, shall carry a written statement indicating the treatment in close proximity to the name of the product.

**6W2.8.2** The use of the international food irradiation symbol as shown below shall be in close proximity to the name or brand name of the product.

**6W2.8.3** When an irradiated product is used as an ingredient in another food, this shall be so declared in the list of ingredients.

**6W2.8.4** When a single ingredient product is prepared from a raw material, which has been irradiated, the label of the product shall contain a statement indicating the treatment.

**6W2.8.5** The licence number of irradiated units shall be declared on the label.

**6W2.9** FPO licence number and FPO logo as registered with the Fruit Products Order, 1955, Revised 2008, shall also be displayed on the label.

## **6W3.0 EXEMPTIONS FROM LABELLING REQUIREMENTS**

Where the largest surface area of the label is less than 10 cm square, such label may be exempted from the requirements of list of ingredients, Lot Number / Batch Number / Code Number, Expiry Date / Best Before Date, nutritional information and instruction for use, but these requirements shall be given on wholesale packages or multi-piece packages, as the case may be.

## **6W4.0 OPTIONAL LABELLING**

Any information or pictorial device written, printed, or graphic matter may be displayed in the label provided that it is not in conflict with the requirements of these rules.





## **6W5.0 LABELS NOT TO CONTAIN FALSE OR MISLEADING STATEMENTS**

A label shall not contain any statement, claim, design, device, fancy name or abbreviation which is false or misleading in any particular concerning the food contained in the package, or concerning the quantity or the nutritive value or in relations to the place of origin of the said food:

**Provided** that this rule shall not apply in respect of established trade or fancy names of processed the fruit and vegetable products or any other name in existence in international trade practice.

## **6W6 MANUFACTURE OF PROPRIETARY FRUIT AND VEGETABLE PRODUCT**

**6W6.1** Proprietary fruit and vegetable product means a product which has not been Standardized under the Fruit Products Order, 1955, Reviewed 2008.

**6W6.2** In addition to the provisions including labelling requirements as prescribed under these rules, all proprietary product shall also conform to the following requirement: -

**6W6.2.1** the manufacturer of proprietary products shall obtain separate licence for manufacture of each proprietary fruit and vegetable products:

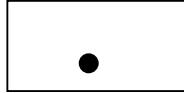
**6W6.2.2** the name of the product and / or category under which it falls in these rules shall be mentioned on the label:

**6W6.2.3** tobacco and nicotine shall not be used as ingredients on the manufacture of proprietary fruit and vegetable products;

**6W6.2.4** the proprietary fruit and vegetable product shall not contain food additives except as provided in the rules for that product and / or category of product.



**6W7** Every package of fruit and vegetable product (Vegetarian Food) shall bear the following symbol in green colour on the principal display panel or label just close in proximity to name or brand name of the product namely:



**6W8** The manufacturer of fruit products licensed under this Order may export the products: -

**6W8.1** with indicating the name of the place of manufacture provided that a declaration “Made in India” or “Produce of India” along with the licence number issued to them under this Order is indicated properly on the label affixed to the container of such fruit product or vegetable product;

**6W8.2** without indicating the name of the place of manufacture or a declaration “Made in India” or “Produce of India” or licence number, in case the importer gives a certificate to the effect that these declarations could be written either on the invoice or packing material or both.



## **6X STANDARD FOR PACKAGED DRINKING WATER (Used for Non-Fruit Beverages)**

'Packaged Drinking Water' (Other Than Mineral Water) means water derived from any source of potable water or sea water or underground water or surface water which may be subjected to the treatments namely, decantation, filtration, combination of filtration, aerations, filtration with membrane filter, depth filter, cartridge filter, activated carbon filtration, demineralization, remineralisation reverse osmosis and packed. It may be disinfected to a level that will not lead to harmful contamination in the drinking water. It may be disinfected by means of chemical agents and/or physical method to reduce the number of microorganism to level that does not compromise food safety or suitability:

**PROVIDED** that seawater, before being subjected to the above treatments, would be subjected to desalination and related processes.

It shall be packed in clean, colourless, transparent and tamperproof bottles/containers made of polyethylene (PE) conforming to IS: 10146 or polyvinyl chloride (PVC) conforming to IS: 10151 or polyalkylene terephthalate (PET and PBT) conforming to IS: 12252 or polypropylene conforming to IS: 10910 or food grade polycarbonate or sterile glass bottles suitable for preventing possible adulteration or contamination of the water.

All packaging materials of plastic origin shall pass the prescribed overall migration and colour migration limits.



**It shall conform to the following standards, namely**

<b>Sl. No.</b>	<b>Characteristics</b>	<b>Requirements</b>
(1)	(2)	(3)
1.	Colour	Not more than 2 Hazen Units / True Colour Units
2.	Odour	Agreeable
3.	Taste	Agreeable
4.	Turbidity	Not more than 2 nephelometric turbidity unit (NTC)
5.	Total Dissolved Solids	Not more than 500 mg/litre
6.	PH	6.5-6.8
7.	Nitrates (as NO <sub>3</sub> )	Not more than 45 mg/litre
8.	Nitrites (as NO <sub>2</sub> )	Not more than 0.02 mg/litre
9.	Sulphide (as H <sub>2</sub> S)	Not more than 0.05 mg/litre
10.	Mineral oil	Absent
11.	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH)	Absent
12.	Managanese (as Mn)	Not more than 0.1 mg/litre
13.	Copper (as Cu)	Not more than 0.05 mg/litre
14.	Zinc (as Zn)	Not more than 5 mg/litre
15.	Fluoride (as F)	Not more than 1.0 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.	Anionic surface active agents (as MBAS)	Not more than 0.2 mg/litre
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 <sub>4</sub> )	Not more than 200 mg/litre



24.	Magnesium (as Mg)	Not more than 30 mg/litre
25.	Calcium (as Ca)	Not more than 75 mg/litre
26.	Sodium (as Na)	Not more than 200 mg/litre
27.	Alkalinity (as HCO <sub>3</sub> )	Not more than 200 mg/litre
28.	Arsenic (as As)	Not more than 0.05 mg/litre
29.	Cadmium (as Cd)	Not more than 0.01 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 0.01 mg/litre
35.	Iron (as Fe)	Not more than 0.1 mg/litre
36.	Poly nuclear aromatic hydrocarbons	Not detectable
37.	Polychlorinated biphenyl (PCB)	Not detectable
38.	Aluminium (as Al)	Not more than 0.03 mg/litre
39.	Residual free chlorine	Not more than 0.02 mg/litre
40.	(i) Pesticide residues considered individually  (ii) Total pesticide residues	Not more than 0.0001 mg/litre (the analysis shall be conducted by using International established test methods meeting the residue limits specified herein).  Not more than 0.0005 mg / litre (The analysis shall be conducted by using International established test methods meeting the residue limits specified herein).
41.	“Alpha” activity	Not more than 0.1 Bacquerel / litre (Bq)
42.	“Beta” activity	Not more than Bacquarel / litre (Bq)
43.	Yeast and mould counts 1×250 ml	Absent



44.	Salmonella and Shigella 1×250 ml	Absent
45.	E. Coli or thermo tolerant bacteria 1×250 ml	Absent
46.	Coliform bacteria 1×250 ml	Absent
47.	Faecal Streptococci and Staphylococcus aureus 1×250 ml	Absent
48.	Pseudomonas aeruginosa 1×250 ml	Absent
59.	Sulphite-reducing anaerobes 1×50 ml	Absent
50.	Vibrio cholera and V. Parahaemolyticus 1×250 ml	Absent
51.	Aerobic Microbial Count	The total viable colony count shall not exceed 100 per ml at 20 <sup>0</sup> C to 22 <sup>0</sup> C in 72 h on agar-agar or on agar-gelatin mixture, and 20 per ml at 37 <sup>0</sup> C in 24 h on agar-agar.

### **6X1 Labelling prohibition**

No claims concerning medicinal (preventative, alleviative or curative) effects shall be made in respect of the properties of the product covered by the standard. Claims of other beneficial effects related to the health of the consumer shall not be made.

The name of the locality, hamlet or specified place may not form part of the trade name unless it refers to a packaged water collected at the place designated by that trade name.

The use of any statement or of any pictorial device which may create confusion in the mind of the public or in any way mislead the public about the nature, origin, composition, and properties of such waters put on sale is prohibited.

**APPENDIX - A****LIMITS OF POISONOUS METALS PROCESSED IN FRUIT AND VEGETABLE PRODUCTS.**

<b>Name of the poisonous metal</b>	<b>Name of the product</b>	<b>Parts per million by weight</b>
<b>1. Lead</b>	(i) Concentrated soft drinks (but not including concentrates used in the manufacture of soft drinks)	0.5
	(ii) Fruit and vegetable juice (including tomato juice, but not including lime juice and lemon juice.)	1.0
	(iii) Concentrates used in the manufacture of soft drinks, lime juice and lemon juice	2.0
	(iv) Soft drinks excluding concentrates	Nil
	(v) Dried or dehydrated vegetables (other than onions)	2.5
	(vi) Dehydrated onions	10.0 on the dry matter
	(vii) Fruits products not specified	5.0
	(viii) Brewed Vinegar and Non-Fruit Vinegar.	Nil
	(ix) Cider and Wine	Nil
<b>2. Copper</b>	(i) Soft drinks excluding concentrates	5.0
	(ii) Concentrates for soft drinks	20.0
	(iii) Tomato Ketchup on the dried total solids	50.0
	(iv) Tomato puree, paste, powder, juice and cocktails on the dried tomato solids	100.0
	(v) Brewed Vinegar and Non-Fruit Vinegar	Nil
	(vi) Cider and Wine	Nil
	(vii) Fruit Products not specified	30.0



<b>3. Arsenic</b>	(i) Soft drinks intended for consumption after dilution	Arsenic-0.5
	(ii) Dehydrated onions	Arsenic-2.0 Arsenious oxide-2.6
	(iii) Fruit and Vegetable products not specified	1.0
	(iv) Brewed Vinegar and Non-Fruit Vinegar	0.1
	(v) Carbonated Non-fruit Drink	0.25
<b>4. Tin</b>	(i) Processed and canned products	250
	(ii) Soft drinks excluding concentrates	100.0
	(iii) Fruit and Vegetable products not specified	250
<b>5. Zinc</b>	(i) Ready to drink beverages	5.0
	(ii) Juice of orange, grape, tomato, pineapple and lemon	5.0
	(iii) Pulp and pulp products of any fruit	5.0
	(iv) Fruit & Vegetable Products Covered under this order	19.0





**Appendix B**  
**Table – (A)**

1. International Numbering System (INS) for Food Additives -

The following list sorted by INS is only for identifying the INS No. of these food additives or their synonymous as per Codex. The list of food additives as per Codex and the food additives allowed under the Fruit Product Order, 1955 are listed in this order and under Appendix 'B' of the said order.

The list given below as published by Codex as on date. For any revision JECFA/Code website may be referred

([www.codexalimentarius.net](http://www.codexalimentarius.net); [www.codexalimentarius.net/web/jecfa.jsp](http://www.codexalimentarius.net/web/jecfa.jsp))

**A. List sorted by INS number**

<b>Sl. No.</b>	<b>INS Number</b>	<b>Food Additive Name</b>	<b>Technical functions</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
1	100	Curcumins	colour
2	100 (I)	Curcumin	colour
3	100(II)	Turmeric	colour
4	101	Riboflavins	colour
5	101(I)	Riboflavin	colour
6	101(II)	Riboflavins 5' -phosphate, sodium	colour
7	102	Tartrazine	colour
8	103	Alkanet	colour
9	104	Quinoline yellow	colour
10	107	Yellow 2G	colour
11	110	Sunset yellow FCF.	colour
12	120	Carmines	colour
13	121	Citrus red 2	colour
14	122	Azorubine/Carmoisine	colour
15	123	Amaranth	colour
16	124	Ponceau 4R	colour
17	125	Ponceau SX	colour
18	127	Erythrosine	colour
19	128	Red 2G	colour
20	129	Allurared AC/Fast Red E	colour



21	130	Manascorubin	colour
22	131	Patent blue V	colour
23	132	Indigotine	colour
24	133	Brilliant Blue FCF	colour
25	140	Chlorophyll	colour
26	141	Copper chorophylls	colour
27	141(I)	Chlorophyll copper complex,	colour
28	141(II)	Chlorophyll copper complex, sodium and potassium Salts	colour
29	142	Green S	colour
30	143	Fast green FCF	colour
31	150a	Caramel I-plain	colour
32	150b	Caramel II-caustic sulphite process	colour
33	150c	Caramel III-ammonia process	colour
34	150d	Caramel IV-ammonia sulphite process	colour
35	151	Brilliant black PN	colour
36	152	Carbon black (hydrocarbon)	colour
37	153	Vegetable carbon	colour
38	154	Brown FK	colour
39	155	Brown HT	colour
40	160a	Carotenes	colour
41	160a(I)	Beta-carotene (synthetic)	colour
42	160a(ii)	Natural extracts	colour
43	160b	Annatto extracts	colour
44	160c	Paprika Oleoresins	colour
45	160d	Lycopene	colour
46	160e	Beta-apo-carotental	colour
47	160f	Beta-apo-8'-carotenic acid, methyl or ethyl ester	colour
48	161a	Flavoxanthin	colour
49	161b	Lutein	colour
50	161c	Krytoxanthin	colour
51	161d	Rubixanthin	colour
52	161e	Violoanthin	colour
53	161f	Rhodoxanthin	colour
54	161g	Canthaxanthin	colour



55	162	Beet red	colour
56	163	Anthocyanins	colour
57	163(I)	Anthocyanins	colour
58	163(ii)	Grape skin extract	colour
59	163(iii)	Blackcurrant extract	colour
60	164	Gardenia yellow	colour
61	166	Sandalwood	colour
62	170	Calcium carbonates	Surface colourant, anticaking agent, stabilizer
63	170(I)	Calcium carbonate	anticaking agent
64	170(ii)	Calcium hydrogen carbonate	anticaking agent
65	171	Titanium dioxide	colour
66	172	Iron oxides	colour
67	172(I)	Iron oxide, black	colour
68	172(ii)	Iron oxide, red	colour
69	172(iii)	Iron oxide, yellow	colour
70	173	Aluminium	colour
71	174	Silver	colour
72	175	Gold	colour
73	180	Lithol rubine BK	colour
74	181	Tannis, food grade	colour, emulsifier, stabilizer, thickener
75	182	Orchil	colour
76	200	Sorbic acid	preservative
77	201	Sodium sorbate	preservative
78	202	Potassium sorbate	preservative
79	203	Calcium sorbate	preservative
80	209	Heptyl p-hydroxybenzoate	preservative
81	210	Benzoic acid	preservative
82	211	Sodium benzoate	preservative
83	212	Potassium benzoate	preservative
84	213	Calcium benzoate	preservative
85	214	Ethyl p-hydroxybenzoate	preservative
86	215	Sodium ethyl p-hydroxybenzoate	preservative
87	216	Propyl p-hydroxybenzoate	preservative
88	217	Sodium propyl p-hydroxybenzoate	preservative



89	218	Methyl p-hydroxybenzoate	preservative
90	219	Sodium methyl p-hydroxybenzoate	preservative
91	220	Sulphur dioxide	Preservative, antioxidant
92	221	Sodium sulphite	Preservative, antioxidant
93	222	Sodium hydrogen sulphite	Preservative, antioxidant
94	223	Sodium metabisulphite	Preservative, bleaching agent, antioxidant
95	224	Potassium metabisulphite	Preservative, antioxidant
96	225	Potassium sulphite	Preservative, antioxidant
97	226	Calcium sulphite	Preservative, antioxidant
98	227	Calcium hydrogen sulphite	Preservative, antioxidant
99	228	Potassium bisulphite	Preservative, antioxidant
100	230	Diphenyl	preservative
101	231	Ortho-phenylphenol	preservative
102	232	Sodium o-phenylphenol	preservative
103	233	Thiabendazole	preservative
104	234	Nisin	preservative
105	235	Pimaricin (natamycin)	preservative
106	236	Formic acid	preservative
107	237	Sodium formate	preservative
108	238	Calcium formate	preservative
109	239	Hexamethylene tetramine	preservative
110	240	Formaldehyde	preservative
111	241	Gum guaicum	preservative
112	242	Dimethyl dicarbonate	preservative
113	249	Potassium nitrite	Preservative, colour fixative
114	250	Sodium nitrite	Preservative, colour fixative
115	251	Sodium nitrate	Preservative, colour fixative
116	252	Potassium nitrate	Preservative, colour fixative
117	260	Acetic acid, glacial	Preservative, acidity regulator
118	261	Potassium acetates	Preservative, acidity regulator
119	261(I)	Potassium acetate	Preservative, acidity regulator
120	261(ii)	Potassium diacetate	Preservative, acidity regulator
121	262	Sodium acetates	Preservative, acidity regulator
122	262(I)	Sodium acetate	Preservative, acidity regulator sequestrant



123	262(ii)	Sodium diacetate	Preservative, acidity regulator sequestrant
124	263	Calcium acetate	Preservative, stabilizer, acidity regulator
125	264	Ammonium acetate	Acidity regulator
126	265	Dehydroacetic acid	Preservative
127	266	Sodium dehydroacetate	Preservative
128	270	Lactic acid (L-, D - and D1 -)	Acidity regulator
129	280	Propionic acid	Preservative
130	281	Sodium propionate	Preservative
131	282	Calcium propionate	Preservative
132	283	Potassium propionate	Preservative
133	290	Carbon dioxide	Carbonating agent, Packing agent
134	296	Malic acid (DL-L-)	acidity regulator, flavouring agent.
135	297	Fumaric acid	acidity regulator
136	300	Ascorbic acid (L)	antioxidant
137	301	Sodium ascorbate	antioxidant
138	302	Calcium ascorbate	antioxidant
139	303	Potassium ascorbate	antioxidant
140	304	Ascorbyl palmitate	antioxidant
141	305	Ascorbyl stearate	antioxidant
142	306	Mixed tocopherols	antioxidant
143	307	Alpha-tocopherol	antioxidant
144	308	Synthetic gamma-tocopherol	antioxidant
145	309	Synthetic delta-tocopherol	antioxidant
146	310	Propyl gallate	antioxidant
147	311	Octyl gallate	antioxidant
148	312	Dodecyl gallate	antioxidant
149	313	Ethyl gallate	antioxidant
150	314	Guaiac resin	antioxidant
151	315	Isoascorbic acid	antioxidant
152	316	Sodium isoascorbate	antioxidant
153	317	Potassium isoascorbate	antioxidant
154	318	Calcium isoascorbate	antioxidant
155	319	Tertiary butylhydroquinone	antioxidant
156	320	Butylated hydroxyanisole	antioxidant
157	321	Butylated hydroxytoluene	antioxidant



158	322	Lecithins	antioxidant, emulsifier
159	323	Anoxomer	antioxidant
160	324	Ethoxyquin	antioxidant
161	325	Sodium lactate	antioxidant, synergist, humectant, bulking agent
162	326	Potassium lactate	antioxidant, synergist, acidity regulator
163	327	Calcium lactate	acidity regulator, flour treatment agent
164	328	Ammonium lactate	acidity regulator, flour treatment agent
165	329	Magnesium lactate (D-, L-)	acidity regulator, flour treatment agent
166	320	Citric acid	acidity regulator, synergist for sequestrant
167	331	Sodium citrates	acidity regulator, sequestrant emulsifier stabilizer
168	331(I)	Sodium dihydrogen citrate	acidity regulator, sequestrant emulsifier stabilizer
169	331(ii)	Disodium monohydrogen citrate	acidity regulator, stabilizer, sequestrant emulsifier
170	331(iii)	Trisodium citrate	acidity regulator, sequestrant emulsifier stabilizer
171	332	Potassium citrates	acidity regulator, sequestrant stabilizer
172	332(I)	Potassium dihydrogen citrate	acidity regulator, sequestrant stabilizer
173	332(ii)	Tripotassium citrate	acidity regulator, sequestrant stabilizer
174	333	Calcium citrates	acidity regulator, firming agent sequestrant
175	334	Tartaric acid [L(+)-]	acidity regulator, sequestrant, antioxidant synergist
176	335	Sodium tartrates	Stabilizer, sequestrant
177	335(I)	Monosodium tartrate	Stabilizer, sequestrant
178	335(ii)	Disodium tartrate	Stabilizer, sequestrant
179	336	Potassium tartrate	Stabilizer, sequestrant
180	336(I)	Monopotassium tartrate	Stabilizer, sequestrant



181	336(ii)	Dipotassium tartrate	Stabilizer, sequestrant
182	337	Potassium sodium tartrate	Stabilizer, sequestrant
183	338	Orthophosphoric acid	acidity regulator, antioxidant synergist
184	339	Sodium phosphates	acidity regulator, texturizer, sequestrant, stabilizer Emulsifier, water retention agent
185	339(I)	Monosodium orthophosphate	acidity regulator, texturizer, sequestrant, stabilizer Emulsifier, water retention agent
186	339(ii)	Disodium orthophosphate	acidity regulator, texturizer, swpuestrant, stabilizer Emulsifier, water retention agent
187	339(iii)	Trisodium orthophosphate	sequestrant, stabilizer, Emulsifier, water retention agent, acidity regulator, texurizer
188	340	Potassium Phosphates	acidity regulator, texturizer, sequestrant, stabilizer Emulsifier, water retention agent
189	340(I)	Monopotassium orthophosphate	acidity regulator, texturizer, sequestrant, stabilizer Emulsifier, water retention agent
190	340(ii)	Dipotassium orthophosphate	acidity regulator, texturizer, sequestrant, stabilizer Emulsifier, water retention agent
191	340(iii)	Tripotassium orthophosphate	acidity regulator, texturizer, sequestrant, stabilizer Emulsifier, water retention agent
192	341	Calcium phosphates	acidity regulator, texturizer, water retention agent, flour treatment agent, raising agent, firming agent, anticaking agent
193	341(I)	Monocalcium orthophosphate	acidity regulator, texturizer, water retention agent, flour treatment agent, firming agent, anticaking agent



194	341(ii)	Dicalcium orthophosphate	acidity regulator, texturizer, flour treatment agent, raising agent, firming agent, anticaking agent
195	341 (III)	Tricalcium orthophosphate	acidity regulator, texturizer, water retention agent, flour treatment agent, firming agent, anticaking agent
196	342	Ammonium phosphates	acidity regulator, flour treatment agent
197	342(I)	Monoammonium orthophosphate	acidity regulator, flour treatment agent
198	342(ii)	Diammonium orthophosphate	acidity regulator, flour treatment agent
199	343	Magnesium phosphates	acidity regulator, anticaking agent
200	343(I)	Monomagnesium orthophosphate	acidity regulator, anticaking agent
201	343(ii)	Dimagnesium orthophosphate	acidity regulator, anticaking agent
202	343(iii)	Trimagnesium orthophosphate	acidity regulator, anticaking agent
203	344	Lecithin citrate	Preservative
204	345	Magnesium citrate	acidity regulator
205	349	Ammonium malate	acidity regulator
206	350	Sodium malates	acidity regulator, humectant
207	350(I)	Sodium hydrogen malate	acidity regulator, humectant
208	350(ii)	Sodium malate	acidity regulator, humectant
209	351	Potassium malates	acidity regulator
210	351(I)	Potassium hydrogen malate	acidity regulator
211	351(ii)	Potassium malate	acidity regulator
212	352	Calcium malates	acidity regulator
213	352(I)	Calcium hydrogen malate	acidity regulator
214	352(ii)	Calcium malate	acidity regulator
215	353	Metatartaric acid	acidity regulator
216	354	Calcium tartrate	acidity regulator
217	355	Adipic acid	acidity regulator
218	356	Sodium adipates	acidity regulator
219	357	Potassium adipates	acidity regulator
220	359	Ammonium adipates	acidity regulator
221	363	Succinic acid	acidity regulator
222	364(I)	Monosodium succinate	acidity regulator, flavour enhancer





223	364(ii)	Disodium succinate	acidity regulator, flavour enhancer
224	365	Sodium fumarates	acidity regulator
225	366	Potassium fumarates	acidity regulator
226	367	Calcium fumarates	acidity regulator
227	368	Ammonium fumarates	acidity regulator
228	370	1, 4-Heptonolactone	acidity regulator, sequestrant
229	375	Nicotinic acid-	colour retention agent
230	380	Ammonium citrates	acidity regulator
231	381	Ferric ammonium citrate	anticaking agent
232	383	Calcium glycerophosphate	Thickener, gelling agent, stabilizer
233	384	Isopropyl citrates	Antioxidant, Preservative, sequestrant
234	385	Calcium disodium ethylene-diamine-tetra-acetate	Antioxidant, Preservative, sequestrant
235	386	Disodium dthylene-diamine-tetra-acetate	Antioxidant, Preservative, sequestrant
236	387	Oxy stearin	Antioxidant, sequestrant
237	388	Thiodipropionic acid	Antioxidant
238	389	Dilauryl thiodipropionate	Antioxidant
239	390	Distearyl thiodipropionate	Antioxidant
240	391	Phytic acid	Antioxidant
241	399	Calcium lactobionate	Stabilizer
242	400	Alginic acid	Thickener, stabilizer
243	401	Sodium alginate	Thickener, stabilizer, gelling agent
244	402	Potassium alginate	Thickener, stabilizer
245	403	Ammonium alginate	Thickener, stabilizer
246	404	Calcium alginate	Thickener, stabilizer, gelling agent, antifoaming agent
247	405	Propylene glycol alginate	Thickener, emulsifier
248	406	Agar	Thickener, gelling agent, stabilizer
249	407	Carrageenan and its Na, K, NH <sub>4</sub> salts (includes furcellaran)	Thickener, gelling agent, stabilizer
250	407a	Processed Euchema Seaweed (PES)	Thickener, stabilizer
251	408	Bakers yeast glycan	Thickener, gelling agent, stabilizer
252	409	Arabinogalactan	Thickener, gelling agent, stabilizer
253	410	Carob bean gum	Thickener, stabilizer



254	411	Oat gum	Thickener, stabilizer
255	412	Guar gum	Thickener, stabilizer, emulsifier
256	413	Tragacanth gum	Thickener, stabilizer, emulsifier
257	414	Gum arabic (acacia gum)	Thickener, stabilizer
258	415	Xanthan gum	Thickener, stabilizer, emulsifier, foaming agent
259	416	Karaya gum	Thickener, stabilizer
260	417	Tara gum	Thickener, stabilizer
261	418	Gellan gum	Thickener, stabilizer, gelling agent
262	419	Gum ghatti	Thickener, stabilizer, emulsifier
263	420	Sorbitol and sorbitol syrup	Sweetener, Humectant, sequestrant, Texturizer, emulsifier
264	421	Mannitol	Sweetener, anticaking agent
265	422	Glycerol	Humectant, bodying agent
266	424	Curd lan	Thickener, Stabilizer
267	425	Konjac flour	Thickener
268	429	Peptones	Emulsifier
269	430	Polyoxyethylene (8) stearate	Emulsifier
270	431	Polyoxyethylene (40) stearate	Emulsifier
271	432	Polyoxyethylene (20) sorbitan monolaurate	Emulsifier, dispersing agent
272	433	Polyoxyethylene (20) sorbitan monoleate	Emulsifier, dispersing agent
273	434	Polyoxyethylene (20) sorbitan monopalmitate	Emulsifier, dispersing agent
274	435	Polyoxyethylene (20) sorbitan monostearate	Emulsifier, dispersing agent
275	436	Polyoxyethylene (20) sorbitan tristearate	Emulsifier, dispersing agent
276	440	Pectins	Thickener, emulsifier, Stabilizer, gelling agent
277	441	Superglycerinated hydrogenated rapeseed oil	Emulsifier
278	442	Ammonium salts of phosphatidic acid	Emulsifier
279	443	Brominated vegetable oil	Emusifier, stabilizer
280	444	Sucrose acetate isobutyrate	Emusifier, stabilizer
281	445	Glycerol esters of wood resin	Emusifier, stabilizer



282	446	Succistearin	Emulsifier
			acidity regulator, texturizer, sequestrant, stabilizer Emulsifier, water retention agent
283	450	Diphosphates	
			acidity regulator, texturizer, sequestrant, stabilizer Emulsifier, water retention agent
284	450(I)	Disodium diphosphate	
			acidity regulator, texturizer, sequestrant, stabilizer Emulsifier, water retention agent
285	450(ii)	Trisodium diphosphate	
			acidity regulator, texturizer, sequestrant, stabilizer Emulsifier, water retention agent
286	450(iii)	Tetrasodium diphosphate	
			acidity regulator, texturizer, sequestrant, stabilizer Emulsifier, water retention agent
287	450(iv)	Dipotassium diphosphate	
			acidity regulator, texturizer, sequestrant, stabilizer Emulsifier, water retention agent
			Emulsifier, stabilizer, acidity regulator, raising agent, sequestrant, water retention agent
288	450(v)	Tetrapotassium diphosphate	
			acidity regulator, texturizer, sequestrant, stabilizer Emulsifier, water retention agent
289	450(vi)	Dicalcium diphosphate	
			acidity regulator, texturizer, sequestrant, stabilizer Emulsifier, water retention agent
290	450(vii)	Calcium dihydrogen diphosphate	Emulsifier, raising agent, stabilizer, sequestrant, acidity, regulator, water retention agent
			acidity regulator, texturizer, sequestrant, stabilizer Emulsifier, water retention agent
291	450(viii)	Dimagnesium diphosphate	
			acidity regulator, texturizer, sequestrant, stabilizer Emulsifier, water retention agent
292	451	Tri phosphates	Sequestrant, acidity regulator texturizer
			Sequestrant, acidity regulator texturizer
293	451(I)	Pentasodium	
			Sequestrant, acidity regulator texturizer
294	451(ii)	Pentapotassium triphosphate	
			acidity regulator, texturizer, sequestrant stabilizer, Emulsifier, water retention agent
295	452	Polyphosphates	
			acidity regulator, texturizer, sequestrant stabilizer, Emulsifier, water retention agent



296	452(I)	Sodium polyphosphate	acidity regulator, texturizer, sequestrant stabilizer, Emulsifier, water retention agent
297	452(ii)	Potassium Polyphosphate	acidity regulator, texturizer, sequestrant stabilizer, Emulsifier, water retention agent
298	452(iii)	Sodium calcium polyphosphate	Emulsifier, stabilizer, acidity regulator, raising agent, sequestrant, water retention agent
299	452(iv)	Calcium polyphosphates	Emulsifier, stabilizer, acidity regulator, raising agent, sequestrant, water retention agent
300	452(v)	Ammonium polyphosphates	Emulsifier, stabilizer, acidity regulator, raising agent, sequestrant, water retention agent
301	458	Gamma Cyclodextrin	Stabilizer, binder
302	459	Beta-cyclodextrin	Stabilizer, binder
303	460	Cellulose	Emulsifier, dispersing agent, anticaking agent, texturizer
304	460(I)	Microcrystalline cellulose	Emulsifier, dispersing agent, anticaking agent
305	460(ii)	Powdered cellulose	Emulsifier, dispersing agent, anticaking agent
306	461	Methyl cellulose	Thickener, emulsifier, Stabilizer
307	462	Ethyl cellulose	Binder, filler
308	463	Hydroxypropyl cellulose	Thickener, Emulsifier, stabilizer
309	464	Hydroxypropyl methyl cellulose	Thickener, Emulsifier, stabilizer
310	465	Methyl ethyl cellulose	Thickener antifoaming agent, Emulsifier, stabilizer
311	466	Sodium carboxymethyl cellulose	Thickener, Emulsifier, stabilizer
312	467	Ethyl hydroxyethyl cellulose	Thickener, Emulsifier, stabilizer
313	468	Croscarmellose	Stabilizer, binder
314	469	Sodium carboxymethyl cellulose, enzymatically hydrolysed	Thickener, stabilizer
315	470	Salts of fatty acids (with base Al, Ca, Na, Mg, K, and NH <sub>4</sub> )	Emulsifier, Stabilizer, anticaking agent



316	471	Mono-and di-glycerides of fatty acids	Emulsifier, Stabilizer
317	472a	Acetic and fatty acid esters of glycerol	Emulsifier, Stabilizer sequestrant
318	472b	Lactic and fatty acid esters of glycerol	Emulsifier, Stabilizer sequestrant
319	472c	Citric and fatty acid esters of glycerol	Emulsifier, Stabilizer sequestrant
320	472d	Tartric acid esters of mono and diglycerides of fatty acids	Emulsifier, Stabilizer sequestrant
321	472e	Diacetyltartric and fatty acid ester of glycerol	Emulsifier, Stabilizer sequestrant
322	472f	Mixed tartaric, acetic and fatty acid esters of glycerol	Emulsifier, Stabilizer sequestrant
323	472g	Succinylated monoglycerides	Emulsifier, Stabilizer sequestrant
324	473	sucrose esters of fatty acids	Emulsifier, Stabilizer sequestrant
325	474	Sucroglycerides	Emulsifier, Stabilizer sequestrant
326	475	Polyglycerol esters of fatty acid	Emulsifier, Stabilizer sequestrant
327	476	Polyglycerol esters of interesterified ricinoleic acid	Emulsifier, Stabilizer sequestrant
328	477	Propylene glycol esters of fatty acids	Emulsifier, Stabilizer sequestrant
329	478	Lactylated fatty acid esters of glycerol and propylene glycol	Emulsifier, Stabilizer sequestrant
330	479	Thermally oxidized soya bean oil with mono-and di-glycerides of fatty acids	Emulsifier, Stabilizer sequestrant
331	480	Dioctyl sodium sulphosuccinate	Emulsifier, wetting agent
332	481	Sodium lactylate	Emulsifier, Stabilizer
333	481(I)	Sodium stearyl lactylates	Emulsifier, Stabilizer
334	481(ii)	Sodium oleyl lactylate	Emulsifier, Stabilizer
335	482	calcium lactylates	Emulsifier, Stabilizer
336	482(I)	Calcium stearyl lactylate	Emulsifier, Stabilizer
337	482(ii)	Calcium oleyl lactylates	Emulsifier, Stabilizer
338	483	Stearyl tartrate	Flour treatment agent
339	484	Stearyl citrate	Emulsifier, sequestrant
340	485	Sodium stearyl fumarate	Emulsifier
341	486	Calcium stearyl fumarate	Emulsifier



342	487	sodium laurylsuphate	Emulsifier
343	488	Ethoxylated mono-and di-glycerides	Emulsifier
344	489	Methyl glucoside-coconut oil ester	Emulsifier
345	491	Sorbitan monostearate	Emulsifier
346	492	Sorbitan tistearate	Emulsifier
347	493	Sorbitan monolaurate	Emulsifier
348	494	Sorbitan monooleate	Emulsifier
349	495	Sorbitan monopalmitate	Emulsifier
350	496	Sorbitan trioleate	Stabilizer, Emulsifier
351	500	Sodium carbonates	acidity regulator, raising agent, anticaking agent
352	500(I)	Sodium carbonate	acidity regulator, raising agent, anticaking agent
353	500(ii)	Sodium hydrogen carbonate	acidity regulator, raising agent, anticaking agent
354	500(iii)	Sodium sesquicarbonate	acidity regulator, raising agent, anticaking agent
355	501	Potassium carbonates	acidity regulator, stabilizer
356	501(I)	Potassium carbonate	acidity regulator, stabilizer
357	501(ii)	Potassium hydrogen carbonate	acidity regulator, stabilizer
358	503	Ammonium carbonates	acidity regulator, raising agent
359	503(I)	Ammonium carbonate	acidity regulator, raising agent
360	503(ii)	Ammonium hydrogen carbonate	acidity regulator, raising agent
361	504	Magnesium carbonates	acidity regulator, anticaking agent, colour retention agent
362	504(I)	Magnesium carbonate	acidity regulator, anticaking agent, colour retention agent
363	504(ii)	Magnesium hydrogen carbonate	acidity regulator, anticaking agent, colour retention agent
364	505	Ferrous carbonate	acidity regulator
365	507	Hydrochloric acid	acidity regulator acid
366	508	Potassium Chloride	gelling agent
367	509	Calcium chloride	firming agent
368	510	Ammonium Chloride	Flour treatment agent
369	511	Magnesium chloride	firming agent



370	512	Stannous chloride	Antioxidant, colour retention agent
371	513	Sulphuric acid	acidity regulator
372	514	Sodium sulphates	acidity regulator
373	515	Potassium sulphates	acidity regulator
374	516	Calcium Sulphate	Dough conditioner, Sequestrant, firming agent
375	517	Ammonium sulphate	Flour treatment agent, stabilizer firming agent
376	518	Magnesium sulphate	firming agent
377	519	Cupric sulphate	colour fixative, preservative
378	520	Aluminium sulphate	firming agent
379	521	Aluminium sodium sulphate	firming agent
380	522	Aluminium potassium sulphate	Acidity regulator, stabilizer
381	523	Aluminium ammonium sulphate	Stabilizer, firming agent
382	524	Sodium hydroxide	acidity regulator
383	525	Potassium hydroxide	acidity regulator
384	526	Calcium hydroxide	acidity regulator, firming agent
385	527	Ammonium hydroxide	acidity regulator
386	528	Magnesium hydroxide	acidity regulator, colour retention agent
387	529	Calcium oxide	acidity regulator, colour retention agent
388	530	Magnesium oxide	anticaking agent
389	535	Sodium ferrocyanide	anticaking agent
390	536	Potassium ferrocyanide	anticaking agent
391	537	Ferrous hexacyanomanganate	anticaking agent
392	538	Calcium ferrocyanide	anticaking agent
393	539	Sodium thiosulphate	Antioxidant, sequestrant
394	541	Sodium aluminium phosphate	acidity regulator, emulsifier
395	541(i)	Sodium aluminium phosphate-acidic	acidity regulator, emulsifier
396	541(ii)	Sodium aluminium phosphate-basic	acidity regulator, emulsifier
397	542	Bone phosphate (essentially calcium phosphate, tribasic)	Emulsifier, anticaking agent, water retention agent
398	550	Sodium silicates	anticaking agent



399	550(I)	Sodium silicate	anticaking agent
400	550(ii)	Sodium metasilicate	anticaking agent
401	551	Silicon dioxide, amorphous	anticaking agent
402	552	Calcium silicate	anticaking agent
403	553	Magnesium silicates	anticaking agent, dusting powder
404	553(I)	Magnesium silicate	anticaking agent, dusting powder
405	553(ii)	Magnesium trisilicate	anticaking agent, dusting powder
406	553(iii)	Talc	anticaking agent, dusting powder
407	554	Sodium aluminosilicate	anticaking agent
408	555	Potassium aluminium silicate	anticaking agent
409	556	Calcium aluminium silicate	anticaking agent
410	557	Zinc silicate	anticaking agent
411	558	Bentonite	anticaking agent
412	559	Aluminium silicate	anticaking agent
413	560	Potassium silicate	anticaking agent
414	570	Fatty acids	foam stabilizer, glazing agent, antifoaming agent
415	574	Gluconic acids (D-)	acidity regulator, raising agent
416	575	Glucono delta-lactone	acidity regulator, raising agent
417	576	Sodium gluconate	Swquestrant,
418	577	Potassium gluconate	Swquestrant,
419	578	Calcium gluconate	acidity regulator, firming agent
420	579	Ferrous gluconate	colour retention agent
421	580	Magnesium gluconate	acidity regulator, firming agent
422	585	Ferrous lactate	colour retention agent
423	586	4-Hexylresorcinol	colour retention agent, antioxidant
424	620	Glutamic acid (L (+)-)	flavour enhancer
425	621	Monosodium glutamate	flavour enhancer
426	622	Monopotassium glutamate	flavour enhancer
427	623	Calcium glutamates	flavour enhancer
428	624	Monoammonium glutamate	flavour enhancer
429	625	Magnesium glutamate	flavour enhancer
430	626	Guanylic acid	flavour enhancer
431	627	Disodium 5'-guanylate	flavour enhancer
432	628	Dipotassium 5'-guanylate	flavour enhancer
433	629	Calcium 5'-guanylate	flavour enhancer
434	630	Inosinic acid	flavour enhancer





435	631	Disodium 5'-inosinate	flavour enhancer
436	632	Potassium Inosinate	flavour enhancer
437	633	Calcium 5'-inosinate	flavour enhancer
438	634	Calcium 5'-ribonucleotides	flavour enhancer
439	635	Disodium 5'-ribonucleotides	flavour enhancer
440	636	Maltol	flavour enhancer
441	637	Ethyl maltol	flavour enhancer
442	638	Sodium L-Aspartate	flavour enhancer
443	639	DL-Alanine	flavour enhancer
444	640	Glycine	flavour enhancer
445	641	L-Leucine	flavour enhancer
446	642	Lysin hydrochloride	flavour enhancer
447	900a	Polydimethylsiloxane	antifoaming agent, anticaking agent, emulsifier
448	900b	Methylphenylpolysiloxane	antifoaming agent
449	901	Beeswax, white and yellow	glazing agent, release agent
450	902	Candelilla wax	glazing agent
451	903	Carnaubawax	glazing agent
452	904	Shellac	glazing agent
453	905a	Mineral oil, food grade	glazing agent, release agent sealing agent
454	905b	Petrolatum (Petroleum jelly)	glazing agent, release agent sealing agent
455	905c	Petroleum wax	glazing agent, release agent sealing agent
456	905c(i)	Microcrystallinewax	glazing agent
457	905c(ii)	Paraffin wax	glazing agent
458	906	Benzoin gum	glazing agent
459	907	Hydrogenated poly-1 decene	glazing agent
460	908	Rice bran wax	glazing agent
461	909	Spermacetic wax	glazing agent
462	910	Wax esters	glazing agent
463	911	Methyl esters of fatty acids	glazing agent
464	913	Lanolin	glazing agent
465	915	Glycerol-, methyl-, or pentaerythritol esters of colophane	glazing agent
466	916	Calcium iodate	flour treatment agent



467	917	Potassium iodate	flour treatment agent
468	918	Nitrogen oxide	flour treatment agent
469	919	Nitrosyl chloride	flour treatment agent
470	920	L-Cysteine and its hydrochlorides-sodium and potassium salts	flour treatment agent
471	921	L-Cysteine and its hydrochlorides- sodium and potassium salts	flour treatment agent
472	922	Potassium persulphate	flour treatment agent
473	923	Ammonium persulphate	flour treatment agent
474	924a	Potassium bromate	flour treatment agent
475	924b	Calcium bromate	flour treatment agent
476	925	Chlorine	flour treatment agent
477	926	Chlorine dioxide	flour treatment agent
478	927a	Azodicarbonamide	flour treatment agent
479	927b	Carbamide (urea)	flour treatment agent
480	928	Benzoyl peroxide	flour treatment agent, preservative
481	929	Acetone peroxide	flour treatment agent
482	930	Calcium peroxide	flour treatment agent
483	938	Argon	packing gas
484	939	Helium	packing gas
485	940	Dichlorodifluoromethane	Propellant, liquid freezant
486	941	Nitrogen	Packing gas, freezant
487	942	Nitrous oxide	Propellant
488	943a	Butane	Propellant
489	943b	Isobutane	Propellant
490	944	Propane	Propellant
491	945	Chlorpentafluoroethane	Propellant
492	946	Octafluorocyclobutane	Propellant
493	948	Oxygen	packing gas
494	950	Acesulfame potassium	Sweetener, flavour enhancer
495	951	Aspertame	Sweetener, flavour enhancer
496	952	Cyclamic acid (Na, K, Ca Salts)	Sweetener
497	953	Isomalt (isomaltitol)	Sweetener, anticaking agent, bulking agent, glazing agent
498	954	Saccharin (and Na, K, Ca salts)	Sweetener



499	955	Sucralose (trichlorogalatosucrose)	Sweetener
500	956	Alitame	Sweetener
501	957	Thaumatococin	Sweetener, flavour enhancer
502	958	Glycyrrhizin	Sweetener, flavour enhancer
503	959	Neohesperidine dihydrochalcone	Sweetener
504	960	Stevioside	Sweetener
505	964	Polyglycitol syrup	Sweetener
506	965	Maltitol and matiol syrup	Sweetener, stabilizer, emulsifier
507	966	Lacitol	Sweetener, texturizer
508	967	Xylitol	Sweetener, texturizer Sweetener, humectant, stabilizer, Emulsifier, thickener
509	968	Erthritol	Sweetener, flavour enhancer, humectant
510	999	Quillaja extracts	foaming agent
511	1000	Cholic acid	emulsifier
512	1001	Choline salts and esters	emulsifier
513	1001(i)	Choline acetate	emulsifier
514	1001(ii)	Choline carbonate	emulsifier
515	1001(iii)	Choline chloride	emulsifier
516	1001(iv)	Choline citrate	emulsifier
517	1001(v)	Choline tartrate	emulsifier
518	1001(vi)	Choline lactate	emulsifier
519	1100	Amylases	flour treatment agent
520	1101	Proteases	flour treatment agent, stabilizer, tenderizer, flavour enhancer
521	1101(i)	Protease	flour treatment agent, stabilizer, tenderizer, flavour enhancer
522	1101(ii)	Papain	flour treatment agent, stabilizer, tenderizer, flavour enhancer
523	1101(iii)	Bromelain	flour treatment agent, stabilizer, tenderizer, flavour enhancer
524	1101(iv)	Ficin	flour treatment agent, stabilizer, tenderizer, flavour enhancer
525	1102	Glucose oxidase	antioxidant
526	1103	Invertases	stabilizer



527	1104	Lipases	flavour enhancer
528	1105	Lysozyme	preservative
529	1200	Polydextroses A and N	bulking agent, stabilizer, thickener, Humectant texturizer
530	1201	Polyvinylpyrrolidone	bodying agent, stabilizer, clarifying agent, dispersing agent
531	1202	Polyvinylpolypyrrolidone	colour stabilizer, colloidal, stabilizer
532	1503	Castor oil	release agent
533	1505	Triethyl citrate	foam stabilizer
534	1518	Triacetin	Humectant
535	1520	Propylene glycol	Humectant, Wetting agent, dispersing agent
536	1521	Polyethylene glycol	antifoaming agent
<b>Supplementary List-Modified Starches</b>			
537	1400	Dextrins, roasted starch white and yellow	Stabilizer, thickener, binder
538	1401	Acid-treated starch	Stabilizer, thickener, binder
539	1402	Alkaline treated starch	Stabilizer, thickener, binder
540	1403	Bleached starch	Stabilizer, thickener, binder
541	1404	Oxidised starch	Stabilizer, thickener, binder
542	1405	Starches, enzyme-treated	Thickener
543	1410	Monostarch phosphate	Stabilizer, thickener, binder
544	1411	Distarch glycerol	Stabilizer, thickener, binder
545	1412	Distarch phosphate esterified with sodium trimetaphosphate;	Stabilizer, thickener, binder
546	1413	Phosphated distarch phosphate	Stabilizer, thickener, binder
547	1414	Acetylated distarch phosphate	Stabilizer, thickener, binder
548	1420	Starch acetate esterified with acetic anhydride	Stabilizer, thickener



549	1421	Starch acetate esterified with vinyl acetate	Stabilizer, thickener
550	1422	Acetylated distarch adipate	Stabilizer, thickener, binder, emulsifier
551	1423	Acetylated distarch glycord	Stabilizer, thickener
552	1440	Hydroxypropyl starch	Stabilizer, thickener, binder, emulsifier
553	1442	Hydroxypropyl distarch phosphate	Stabilizer, thickener
554	1443	Hydroxypropyl distarch	Stabilizer, thickener
555	1450	Starch sodium octenyl succinate	Stabilizer, thickener, binder



**Appendix B**  
**Table – (B)**

**B. List sorted by alphabetical Order-International Numbering System (INS) for Food Additives**

The following list sorted by alphabetical order alongwith INS No. is only for identifying the INS No. of these food additives or their synonyms as per Codex. These are the list of food additive as per Codex and the food additives allowed under the Fruit Product Order, 1955 are listed in this order and Appendix ‘B’ of this order.

The list given below as published by Codex as on date. For any revision JECFA/Codex website may be referred ([www.codexalimentarius.net](http://www.codexalimentarius.net); [www.codexalimentarius.net/web/jecfa.jsp](http://www.codexalimentarius.net/web/jecfa.jsp))”

SI No.	INS Number	Food Additive Name	Technical functions
1	370	1,4-Heptonolactone	acidity regulator, sequestrant
2	586	4-Hexylresorcinol	colour retention agent, antioxidant
3	950	Acesulfame potassium	Sweetener, flavour enhancer
4	260	Acetic acid, glacial	Preservative, acidity regulator
5	472a	Acetic and fatty acid esters of glycerol	Emulsifier, Stabilizer, sequestrant
6	929	Acetone peroxide	flour treatment agent
7	355	Adipic acid	acidity regulator
8	406	Agar	Thickener, gelling agent, Stabilizer
9	400	Alginic acid	Thickener, stabilizer
10	956	Alitame	sweetener
11	103	Alkanet	colour
12	129	Allurared AC	colour
13	307	Alpha-tocopherol	antioxidant
14	173	Aluminium	colour
15	523	Aluminium ammonium sulphate	Stabilizer, firming agent
16	522	Aluminium potassium sulphate	acidity regulator, stabilizer
17	559	Aluminium silicate	anticaking agent
18	521	Aluminium sodium sulphate	firming agent
19	520	Aluminium sulphate	firming agent
20	123	Amaranth	colour
21	264	Ammonium acetate	acidity regulator
22	359	Ammonium adipates	acidity regulator
23	403	Ammonium alginate	Thickener, stabilizer



24	503(I)	Ammonium carbonate	acidity regulator, raising agent
25	503	Ammonium carbonates	acidity regulator, raising agent
26	510	Ammonium chloride	flour treatment agent
27	380	Ammonium citrates	acidity regulator
28	368	Ammonium fumarate	acidity regulator
29	503(ii)	Ammonium hydrogen carbonate	acidity regulator, raising agent
30	527	Ammonium hydroxide	acidity regulator
31	328	Ammonium lactate	acidity regulator, flour treatment agent
32	349	Ammonium malate	acidity regulator
33	923	Ammonium persulphate	flour treatment agent
34	342	Ammonium phosphates	acidity regulator, flour treatment agent
35	452(v)	Ammonium polyphosphates	emulsifier raising agent, stabilizer sequestrant, Acidity regulator, water retention agent
36	442	Ammonium salts of phosphatidic acid	emulsifier
37	517	Ammonium sulphate	flour treatment agent, stabilizer
38	1100	Amylases	flour treatment agent
39	160b	Annatto extracts	colour
40	323	Anoxomer	antioxidant
41	163(I)	Anthocyanins	colour
42	163	Anothocyanins	colour
43	409	Arabinogalactan	Thickener, gelling agent, Stabilizer
44	938	Argon	packing gas
45	300	Ascorbic acid (L-)	antioxidant
46	304	Ascorbyl palmitate	antioxidant
47	305	Ascorbyl stearate	antioxidant
48	951	Aspartame	Sweetener, flavour enhancer
49	927a	Azodicarbonamide	flour treatment agent
50	122	Azorubine	colour
51	408	Bakers yeast glycan	Thickener, gelling agent, Stabilizer
52	901	Beeswax, white and yellow	glazing agent, release agent
53	162	Beet red	colour
54	558	Bentonite	anticaking agent
55	210	Benzole acid	Preservative
56	906	Benzoin gum	glazing agent
57	928	Benzoyl peroxide	flour treatment agent, preservative



58	160f	Beta-apo-8' carotenic acid, methyl or enthyl ester	colour
59	160e	Beta-apo-Carotenal	colour
60	160a(l)	Beta-Carotene (Synthetic)	colour
61	459	Beta-cyclodextrin	Stabilizer, binder
62	163(iii)	Blackcurrant extract	colour
63	542	Bone phosphate (essentially calcium phosphate, tribasic)	Emulsifier, anticaking agent, water retention agent
64	151	Brilliant black PN	colour
65	133	Brilliant blue FCF	colour
66	1101(iii)	Bromelain	flour treatment agent, stabilizer, tenderizer, flavour enhancer
67	443	Brominated vegetable oil	Emulsifier, stabilizer
68	154	Brown FK	colour
69	155	Brown HT	colour
70	943a	Butane	Propellant
71	320	Butylated hydroxyanisole	Antioxidant
72	321	Butylated hydroxytoluene	Antioxidant
73	629	Calcium 5'-guanylate	flavour enhancer
74	633	Calcium 5'-inosinate	flavour enhancer
75	634	Calcium5'-ribonucleotides	flavour enhancer
76	263	Calcium acetate	Preservative, stabilizer, acidity regulator
77	404	Calcium alginate	Thickener, Stabilizer, gelling agent antifoaming agent
78	556	Calcium aluminium silicate	anticaking agent
79	302	Calcium ascorbate	antioxidant
80	213	Calcium benzoate	preservative
81	924b	Calcium bromate	flour treatment agent
82	170(l)	Calcium carbonate	anticaking agent
83	170	Calcium carbonate	Surface colourant, anticaking agent, stabilizer
84	509	Calcium chloride	firming agent
85	333	Calcium citrates	acidity regulator, firming agent, sequestrant
86	450(vii)	Calcium dihydrogen diphosphate	emulsifier, raising agent, stabilizer sequestrant, acidity regulator water retention agent
87	385	Calcium disodium ethylene-diamine-tetra-acetate	Antioxidant, Preservatives, sequestrant
88	538	Calcium ferrocyanide	anticaking agent
89	238	Calcium formate	Preservative
90	367	Calcium fumarates	acidity regulator
91	578	Calcium gluconate	acidity regulator, firming agnt
92	623	Calcium glutamate	flavour enhancer





93	383	Calcium	Thickener, gelling agent, Stabilizer
94	170(ii)	Calcium hydrogen carbonate	anticaking agent
95	352(I)	Calcium hydrogen malate	acidity regulator
96	227	Calcium hydrogen	Preservative, antioxidant
97	526	Calcium hydrogen	acidity regulator, firming agent
98	916	Calcium iodate	flour treatment agent
99	318	Calcium isoascorbate	antioxidant
100	327	Calcium lactate	acidity regulator, flour treatment agent
101	399	Calcium lactobionate	stabilizer
102	482	Calcium lactylates	Emulsifier, stabilizer
103	352(ii)	Calcium malate	acidity regulator
104	352	Calcium malates	acidity regulator
105	482(ii)	Calcium oleyl lactylate	Emulsifier, stabilizer
106	529	Calcium oxide	acidity regulator, colour retention agent
107	930	Calcium peroxide	flour treatment agent
108	341	Calcium phosphates	acidity regulator, flour treatment agent, Texturizer, raising agent, anticaking agent, water retention agent
109	452(iv)	Calcium polyphosphates	Emulsifier, Stabilizer, acidity regulator, raising agent, Sequestrant, water retention agent
110	282	Calcium propionate	Preservative
111	552	Calcium silicate	anticaking agent
112	203	Calcium sorbate	Preservative
113	486	Calcium stearyl fumarate	emulsifier
114	482(I)	Calcium stearyl lactylate	Emulsifier, stabilizer
115	516	Calcium sulphate	flour treatment agent, Sequestrant, firming agent
116	226	Calcium sulphite	Preservative, antioxidant
117	354	Calcium tartrate	acidity regulator
118	902	Candelilla wax	glazing agent
119	161g	Canthaxanthin	colour
120	150a	Caramel I-plain	colour
121	150b	Caramel II-caustic sulphite process	colour
122	150c	Caramel III-ammonia process	colour
123	150d	Caramel IV-ammonia sulphite process	colour
124	927b	Carbamide (urea)	flour treatment agent
125	152	Carbon black (hydrocarbon)	colour
126	290	Carbon dioxide	carbonating agent, packing gas



127	120	Carmines	colour
128	903	Carnaubawax	glazing agent
129	410	Carob bean gum	Thickener, stabilizer
130	160a	Carotenes	colour
131	407	Carrageenan and its Na, K, NH <sub>4</sub> salts (includes furcellaran)	Thickener, gelling agent, Stabilizer
132	1503	Castor oil	release agent
133	460	Cellulose	Emulsifier, anticaking agent, texturizer, dispersing agent
134	925	Chlorine	flour treatment agent
135	926	Chlorine dioxide	flour treatment agent
136	945	Chloropentafluoroethane	Propellant
137	140	Chlorophyll Copper	colour
138	141(I)	Chlorophyll copper complex	colour
139	141(ii)	chlorophyll copper complex sodium and potassium salts	colour
140	1000	Cholic acid	emulsifier
141	1001(I)	Choline acetate	emulsifier
142	1001(ii)	Choline carbonate	emulsifier
143	1001(iii)	Choline chloride	emulsifier
144	1001(iv)	Choline citrate	emulsifier
145	1001(vi)	choline lactate	emulsifier
146	1001	choline salt and esters	emulsifier
147	1001(v)	choline tartrate	emulsifier
148	330	citric acid	acidity regulator, Antioxidant, sequestrant
149	472c	Citric and fatty acid esters of glycerol	Emlsifier, Stabilizer, sequestrant
150	121	Citrus red 2	colour
151	141	Copper chlorophylls	colour
152	468	Croscarmellose	Stabilizer, binder
153	519	Cupric sulphate	Colour fixture, preservative
154	100(I)	Curcumin	colour
155	100	Curcumins	colour
156	424	Curdlan	Thickener, stabilizer
157	952	Cyclamic acid (and Na, K, Ca salts)	sweetener
158	265	Dehydroacetic acid	preservative
159	472e	Diacetyltartaric and fatty acid esters of glycerol	Emulsifier, Stabilizer, sequestrant
160	342(ii)	Diammonium orthophosphate	acidity regulator, flour treatment agent
161	450(vi)	Dicalcium diphosphate	Emulsifier, Stabilizer, acidity regulator, raising agent, Sequestrant, water retention



			agent
162	341(ii)	Dicalcium orthophosphate	acidity regulator, flour treatment agent, firming agent, Texturizer
163	940	Dichlorodifluoromethane	Propellant, liquid freezant
164	389	Dilauryl thiodipropionate	antioxidant
165	450(viii)	Dimagnesium diphosphate	emulsifier raising agent, stabilizer sequestrant, Acidity regulator, water retention agent
166	343(ii)	Dimagnesium	acidity regulator, anticaking agent
167	242	Dimethyl dicarbonate	preservative
168	480	Diocetyl sodium sulphosuccinate	Emulsifier, wetting agent
169	230	Diphenyl	preservative
170	450	Diphosphates	Emulsifier, Stabilizer, acidity regulator, raising agent, Sepuestrant, water retention agent
171	628	Dipotassium 5'-guanylate	flavour enhancer
172	450(iv)	Dipotassium diphosphate	Emulsifier, Stabilizer, acidity regulator, raising agent, Sepuestrant, water retention agent
173	340(ii)	Dipotassium orthophosphate	acidity regulator texturizer, sequestrant, stabilizer, emulsifier water retention agent
174	336(ii)	Dipotassium tartrate	Stabilizer, sequestrant
175	627	Disodium 5'-guanylate	flavour enhancer
176	631	Disodium 5'-inosinate	flavour enhancer
177	635	Disodium 5'-ribonucleotides	flavour enhancer
178	450(I)	Disodium diphosphate	Emulsifier, Stabilizer, acidity regulator, raising agent, Sepuestrant, water retention agent
179	386	Disodium ethylene-diamine-tetraacetate	Antioxidant, Preservatives, sequestrant
180	331(ii)	Disodium monohydrogen citrate	acidity regulator, stabilizer, sequestrant, emulsifier
181	339(ii)	Disodium orthophosphate	acidity regulator, Sepuestrant, emulsifier, Texturizer, Stabilizer, water retention agent



182	335(ii)	Disodium tartrate	Stabilizer, sequestrant
183	364(ii)	Disodium succinate	acidity regulator, flavour enhancer
184	390	Distearyl thiodipropionate	antioxidant
185	639	DL-Alanine	flavour enhancer
186	312	Dodecyl gallate	antioxidant
187	968	Erythritol	Sweetener, flavour enhancer, humectant
188	127	Erythrosine	colour
189	488	Ethoxylated mono-and di-glycerides	emulsifier
190	324	Ethoxyquin	antioxidant
191	462	Ethyl cellulose	Binder, filler
192	313	Ethyl gallate	antioxidant
193	467	Ethyl hydroxyethyl cellulose	Thickener, emulsifier, stabilizer
194	637	Ethyl maltol	flavour enhancer
195	214	Ethyl-p-hydroxybenzoate	Preservative
196	143	Fast green FCF	colour
197	570	Fatty acids	foam stabilizer, glazing agent, antifoaming agent
198	381	Ferric ammonium citrate	anticaking agent
199	505	Ferrous carbonate	acidity regulator
200	579	Ferrous gluconate	colour retention agent
201	537	Ferrous hexacyanomanganate	anticaking agent
202	585	Ferrous lactate	colour retention agent
203	1101(iv)	Ficin	flour treatment agent, stabilizer, tenderizer, flavour enhancer
204	161a	Flavoxanthin	colour
205	240	Formaldehyde	Preservative
206	236	Formic acid	Preservative
207	297	Fumaric acid	acidity regulator
208	458	Gamma Cyclodextrin	Stabilizer, binder
209	164	Gardenia yellow	Colour
210	418	Gellan gum	Thickener, stabilizer, gelling agent
211	574	Gluconic acid (D-)	acidity regulator, raising agent
212	575	Glucono delta-lactone	acidity regulator, raising agent
213	1102	Glucose oxidase	Antioxidant
214	620	Glutamic acid (L(+)-)	flavour enhancer
215	422	Glycerol	Humectant, bodying agent
216	445	Glycerol esters of wood resin	Emulsifier, stabilizer



217	915	Glycerol-, methyl-, or penta-erithrytol esters of colophane	glazing agent
218	640	Glycine	Flavour modifier
219	958	Glycyrrhizin	Sweetener, flavour enhancer
220	175	Gold	colour
221	163(ii)	Grape skin extract	colour
222	142	Green S	colour
223	314	Guaiac resin	antioxidant
224	626	Guanlic acid	flavour enhancer
225	412	Guar gum	Thickener stabilizer
226	414	Gum arabic (acacia gum)	Thickener stabilizer
227	419	Gum ghatti	Thickener, stabilizer, emulsifier
228	241	Gum guaicum	preservative
229	939	Helium	packing gas
230	209	Heptyl-p-hydroxybenzoate	Preservative
231	239	Hexamethylene tetramine	Preservative
232	507	Hydrochloric acid	acidity regulator
233	907	Hydrogenated poly-1-decene	glazing agent
234	463	Hydroxypropyl cellulose	Thickener, emulsifier, stabilizer
235	464	Hydroxypropyl methyl cellulose	Thickener, emulsifier, stabilizer
236	132	Indigotine	colour
237	630	Inosinic acid	flavour enhancer
238	1103	Invertases	stabilizer
239	172(I)	Iron oxide, black	colour
240	172(ii)	Iron oxide, red	colour
241	172(iii)	Iron oxide, yellow	colour
242	172	Iron oxides	colour
243	315	Isoascorbic acid	antioxidant
244	943b	Isobutane	propellant
245	953	Isomalt (isomaltitol)	Sweetener, anticaking agent, bulking agent, glazing agent
246	384	Isopropyl citrates	Antioxidant, Preservatives, sequestrant
247	416	Karaya gum	Thickener, stabilizer
248	425	Lonjac flour	thickener
249	161c	Kryptoxanthin	colour
250	920	L-Cysteine and its hydrochlorides-sodium and potassium salts	flour treatment agent
251	921	L-Cysteine and its hydrochlorides-sodium and potassium salts	flour treatment agent
252	641	L-Leucine	Flavour modifier



253	270	Lactic acid (L-, D- and D1-)	acidity regulator
254	472b	Lactic and fatty acid esters of glycerol	Emulsifier, stabilizer, sequestrant
255	966	Lactitol	Sweetener, texturizer
256	478	Lactylated fatty acid esters of glycerol and propylene glycol	emulsifier
257	913	Lanolin	glazing agent
258	344	Lecithin citrate	Preservative
259	322	Lecithins	Antioxidant, emulsifier
260	1104	Upases	flavour enhancer
261	180	Lithol rubine BK	colour
262	161b	Lutein	colour
263	160d	Lucopene	colour
264	642	Lysin hydrochloride	flavour enhancer
265	1105	Lysozyme	preservative
266	504(I)	Megnesium carbonate	acidity regulator, anticaking agent, colour retention agent
267	504	Magnesium carbonates	acidity regulator, anticaking agent, colour retention agent
268	511	Magnesium chloride	firming agent
269	345	Magnesium citrate	acidity regulator
270	580	Magnesium gluconate	acidity regulator, firming agent
271	625	Magnesium glutamate	flavour enhancer
272	504(ii)	Magnesium hydrogen carbonate	acidity regulator, anticaking agent, colour retention agent
273	528	Magnesium hydroxide	acidity regulator, colour retention agent
274	329	Magnesium lactate (D-, L-)	acidity regulator, flour treatment agent
275	530	Magnesium oxide	anticaking agent
276	343	Magnesium phosphates	acidity regulator, anticaking agent
277	553(I)	Magnesium siliciate	anticaking agent, dusting powder
278	553	Magnesium silicates	anticaking agent, dusting powder
279	518	Magnesium sulphate	firming agent
280	553(ii)	Magnesium trisilicate	anticaking agent, dusting powder
281	296	Malic acid (D-, L-)	acidity regulator, flavouring agent
282	965	Maltitol and maltitol Syrup	Sweetener, Stabilizer, emulsifier
283	636	Maltol	flavour enhancer
284	130	Manascorubin	colour
285	421	Mannitol	Sweetener, anticaking agent



286	353	Metatartaric acid	acidity regulator
287	461	Methyl cellulose	Thickener, emulsifier, stabilizer
288	911	Methyl esters of fatty acids	glazing agent
289	465	Methyl ethyl cellulose	Thickener, Emulsifier, stabilizer, antifoaming agent
290	489	Methyl glucoside-coconut oil ester	emulsifier
291	218	Methyl p-hydroxybenzoate	Preservative
292	900b	Methylphenylpolysiloxane	antifoaming agent
293	460(l)	Microcrystalline cellulose	Emulsifier, anticaking agent texturizer, dispersing agent
294	905c(l)	Microcrystalline wax	glazing agent
295	905a	Mineral oil, food grade	glazing agent, release agent, sealing agent
296	472f	Mixed tartaric, acetic and fatty acid esters of glycerol	Emulsifier, stabilizer, sequestrant
297	306	Mixed tocopherols concentrate	antioxidant
298	471	Mono-and di-glycerides of fatty acids	Emulsifier, stabilizer
299	624	Monoammonium glutamate	flavour enhancer
300	342(l)	Monoammonium orthophosphate treatment agent	acidity regulator, flour
301	341(l)	Monocalcium orthophosphate	acidity regulator, texturizer, flour treatment agent, raising agent
302	343(l)	Monomagnesium orthophosphate	acidity regulator, anticaking agent
303	622	Monopotassium glutamate	flavour enhancer
304	340(l)	Monopotassium orthophosphate	acidity regulator texturizer, sequestrant stabilizer, emulsifier water retention agent
305	336(l)	Monopotassium tartrate	Stabilizer, sequestrant
306	621	Monosodium glutamate	flavour enhancer
307	339(l)	Monosodium orthophosphate	acidity regulator texturizer, sequestrant stabilizer, emulsifier, water retention agent
308	364(l)	Monosodium succinate	acidity regulator, flavour enhancer
309	335(l)	Monosodium tartrate	Stabilizer, sequestrant
310	160a(ii)	Natural extracts	colour



311	959	Neohesperidine dihydrochalcone	Sweetener
312	375	Nicotinic acid	colour retention agent
313	234	Nisin	Preservative
314	941	Nitrogen	packing gas, freezant
315	918	Nitogen oxides	flour treatment agent
316	919	Nitrosyl chloride	flour treatment agent
317	942	Nitrous oxide	propellant
318	411	Oat gum	Thickener, stabilizer
319	946	Octafluoraocyclobutane	propellant
320	311	Octyl gallate	antioxidant
321	182	Orchil	colour
322	231	Ortho-phenylphenol	preservative
323	338	Orthophosphoric acid	acidity regulator, antioxidant, synergist
324	948	Oxygen	packing gas
325	387	Oxy stearin	Antioxidant, sequestrant
326	1101(ii)	Papain	flour treatment agent, Stabilizer, tenderizer, flavour
327	160c	Paprika oleoresins	colour
328	905c(ii)	Paraffin wax	glazing agent
329	131	Patent blue V	colour
330	440	Pectins	Thickener, Stabilizer, gelling agent
331	451(ii)	Pentapotassium triphosphate	Sequestrant, acidity regulator, texturizer
332	451(I)	Pentasodium triphosphate	Sequestrant, acidity regulator, texturizer
333	429	Peptones	emulsifier
334	905b	Petrolatum (petroleum jelly)	glazing agent, release agent, sealing agent
335	905c	Petroleum wax	glazing agent, release agent, sealing agent
336	391	Phytic acid	antioxidant
337	235	Pimaricin (natamycin)	preservative





338	1200	Polydextroses A and N	bulking agent, Stabilizer, thickener, Humectant, texturizer
339	990a	Polydimethylsiloxane	antifoaming agent, anticaking agent, emulsifier
340	1521	Polyethylene glycol	antifoaming agent
341	475	Polyglycerol esters of fatty acids	emulsifier
342	476	Polyglycerol esters of interesterified ricinoleic acid	emulsifier
343	964	Polyglycitol syrup	sweetener
344	432	Polyoxyethylene (20) sorbitan monolaurate	Emulsifier, dispersing agent
345	433	Polyoxyethylene (20) sorbitan monooleate	Emulsifier, dispersing agent
346	434	Polyoxyethylene (20) sorbitan monopalmitate	Emulsifier, dispersing agent
347	435	Polyoxyethylene (20) sorbitan monostearate	Emulsifier, dispersing agent
348	436	Polyoxyethylene (20) sorbitan tristearate	Emulsifier, dispersing agent
349	431	Polyoxyethylene (40) stearate	emulsifier
350	430	Polyoxyethylene (8) stearate	emulsifier
351	452	Polyphosphates	Emulsifier, Stabilizer, acidity regulator, raising agent, Sequestrant, water retention agent
352	1202	Polyvinylpyrrolidone	colour stabilizer, Colloidal, stabilizer
353	1201	Polyvinylpyrrolidone	bodying agent, Stabilizer, clarifying agent, dispersing agent
354	124	Ponceau 4R	colour
355	125	Ponceau SX	colour
356	261(I)	Potassium acetate	Preservative, acidity regulator
357	261	Potassium acetates	Preservative, acidity regulator
358	357	Potassium adipates	acidity regulator
359	402	Potassium alginate	Thickener, stabilizer
360	555	Potassium aluminium silicate	anticaking agent
361	303	Potassium ascorbate	antioxidant
362	212	Potassium benzoate	preservative
363	228	Potassium bisulphite	Preservative, antioxidant
364	924a	Potassium bromate	flour treatment agent
365	501 (I)	Potassium carbonate	acidity regulator, stabilizer
366	501	Potassium carbonates	acidity regulator, stabilizer
367	508	Potassium chloride	gelling agent
368	332	Potassium citrates	acidity regulator, Sepuestrant, stabilizer



369	261(ii)	Potassium diacetate	Preservative, acidity regulator
370	332(I)	Potassium dihydrogen citrate	acidity regulator, sequestrant, stabilizer
371	536	Potassium ferrocyanide	anticaking agent
372	366	Potassium fumarates	acidity regulator
373	577	Potassium gluconate	sequestrant
374	501(ii)	Potassium hydrogen carbonate	acidity regulator, stabilizer
375	351(I)	Potassium hydrogen malate	acidity regulator
376	525	Potassium hydroxide	acidity regulator
377	632	Potassium Inosate	flavour enhancer
378	917	Potassium iodate	flour treatment agent
379	317	Potassium isoascorbate	antioxidant
380	326	Potassium lactate	antioxidant synergist, acidity regulator
381	351(ii)	Potassium malate	acidity regulator
382	351	Potassium malates	acidity regulator
383	224	Potassium metabisulphite	Preservative, antioxidant
384	252	Potassium nitrate	Preservative, colour fixative
385	249	Potassium nitrite	Preservative, colour fixative
386	922	Potassium persulphate	flour treatment agent
387	340	Potassium phosphates	acidity regulator, Sequestrant, emulsifier, Texturizer, Stabilizer, water retention agent
388	452(ii)	Potassium polyphosphate	Emulsifier, Stabilizer, acidity regulator, raising agent, Sequestrant, water retention agent
389	283	Potassium propionate	Preservative
390	560	Potassium silicate	anticaking agent
391	337	Potassium sodium tartrate	Stabilizer, sequestrant
392	202	Potassium sorbate	Preservative
393	515	Potassium sulphates	acidity regulator
394	225	Potassium sulphite	Preservative, antioxidant
395	336	Potassium tartrates	Stabilizer, sequestrant
396	460(ii)	Powdered cellulose	Emulsifier, anticaking agent, texturizer, dispersing agent
397	407a	Processed Euchema seaweed	Thickener, stabilizer
398	944	Propane	Propellant
399	280	Propionic acid	preservative
400	310	Propyl gallate	antioxidant
401	216	Propyl p-hydroxybenzoate	preservative
402	1520	Propylene glycol	Humectant, wetting agent, dispersing agent
403	405	Propylene glycol alginate	Thickener, emulsifier



404	477	Propylene glycol esters of fatty acids	emulsifier
405	1101(I)	Protease	flour treatment agent, Stabilizer, tender, flavour enhancer
406	1101	Protease	flour treatment agent, Stabilizer, tender, flavour enhancer
407	999	Quillaia extracts	foaming agent
408	104	Quinoline yellow	colour
409	128	Red 2G	colour
410	161f	Rhodoxanthin	colour
411	101(I)	Riboflavin	colour
412	101(ii)	Riboflavin 5'-phosphate, sodium	colour
413	101	Riboflavins	colour
414	908	Rice bran wax	glazing agent
415	161d	Rubixanthin	colour
416	954	Saccharin (and Na, K, Ca salts)	sweetener
417	470	Salts of fatty acids (with base Al, Ca, Na, Mg, K and NH <sub>4</sub> )	Emulsifier, Stabilizer, anticaking agent
418	166	Sandalwood	colour
419	904	Shellac	glazing agent
420	551	Silicon dioxide, amorphous	anticaking agent
421	174	Silver	colour
422	262(I)	Sodium acetate	Preservative, acidity regulator, sequestrant
423	262	Sodium acetates	Preservative, acidity regulator, sequestrant
424	356	Sodium adipates	acidity regulator
425	401	Sodium alginate	Thickener, Stabilizer, gelling agent
426	541	Sodium aluminium phosphate	acidity regulator, emulsifier
427	541(I)	Sodium aluminium phosphate-acidic	acidity regulator, emulsifier
428	541(ii)	Sodium aluminium phosphate-basic	acidity regulator, emulsifier
429	554	Sodium aluminosilicate	anticaking agent
430	301	Sodium ascorbate	antioxidant
431	211	Sodium benzoate	preservative
432	452(iii)	Sodium calcium polyphosphate	Emulsifier, Stabilizer, acidity regulator, raising agent, Sequestrant, water retention agent
433	500(I)	Sodium carbonate	acidity regulator, raising agent, anticaking agent
434	500	Sodium carbonates	acidity regulator, raising agent, anticaking agent



435	466	Sodium carboxymethyl cellulose	Thickener, Emulsifier, stabilizer
436	469	Sodium carboxymethyl, cellulose, enzymatically, hydrolysed	Thickener, stabilizer
437	331	Sodium citrates	acidity regulator, Sepuestrant, emulsifier, stabilizer
438	266	Sodium dehydroacetate	preservative
439	262(ii)	Sodium diacetate	Preservative, acidity regulator, sequestrant
440	331	Sodium dihydrogen citrate	acidity regulator, Sepuestrant, emulsifier, stabilizer
441	215	Sodium ethyl p-hydroxybenzoate	preservative
442	535	Sodium ferrocyanide	anticaking agent
443	237	Sodium formate	preservative
444	365	Sodium fumarates	acidity regulator
445	576	Sodium gluconate	sequestrant
446	500(ii)	Sodium hydrogen carbonate	acidity regulator, raising agent, anticaking agent
447	350(l)	Sodium hydrogen malate	acidity regulator, humectant
448	222	Sodium hydrogen sulphite	Preservative, antioxidant
449	524	Sodium hydroxide	acidity regulator
450	316	Sodium isoascorbate	antioxidant
451	638	Sodium L-Aspartate	flavour enhancer
452	325	Sodium lactate	antioxidant synergist, Humectant, bulking agent
453	481	Sodium lactylates	Emulsifier, stabilizer
454	487	Sodium laurylsuphate	emulsifier
455	350(ii)	Sodium malate	acidity regulator, humectant
456	350	Sodium malates	acidity regulator, humectant
457	223	Sodium metabisuphite	Preservative, bleaching agent, antioxidant
458	550(ii)	Sodium metasilicate	anticaking agent
459	219	Sodium methyl p-hydroxybenzoate	preservative
460	251	Sodium nitrate	Preservative, colour fixative
461	250	Sodium nitrite	Preservative, colour fixative
462	232	Sodium o-phenylphenol	preservative
463	481(ii)	Sodium oleyl lactylate	Emulsifier, stabilizer
464	339	Sodium phosphates	acidity regulator, Sepuestrant, emulsifier, Texturizer, Stabilizer, water retention agent



			Emulsifier, Stabilizer, acidity regulator, raising agent, Sequestrant, water retention agent
465	452(I)	Sodium polyphosphate	
466	281	Sodium propionate	Preservative
467	217	Sodium propyl p-hydroxybenzoate	Preservative
468	500(iii)	Sodium sesquicarbonate	acidity regulator, raising agent, anticaking agent
469	550(I)	Sodium silicate	anticaking agent
470	550	Sodium silicates	anticaking agent
471	201	Sodium sorbate	preservative
472	485	Sodium stearoyl fumarate	emulsifier
473	481(I)	Sodium stearoyl lactylate	Emulsifier, stabilizer
474	514	Sodium sulphates	acidity regulator
475	221	Sodium sulphite	Preservative, antioxidant
476	335	Sodium tartrates	Stabilizer, sequestrant
477	539	Sodium thisoulphate	Antioxidant, sequestrant
478	200	Sorbic acid	preservative
479	493	Sorbitan monolaurate	emulsifier
480	494	Sorbitan monooleate	emulsifier
481	495	Sorbitan monopalmitate	emulsifier
482	491	Sorbitan monostearate	emulsifier
483	496	Sorbitan trioleate	Stabilizer, emulsifier
484	492	Sorbitan tristearate	emulsifier
485	420	Sorbitan and sorbitol syrup	Sweetener, Humectant, sequestrant, Texturizer, emulsifier
486	909	Spermacetic wax	glazing agent
487	512	Stannous chloride	Antioxidant, colour retention agent
488	484	Stearyl citrate	Emulsifier, sequestrant
489	483	Stearyl tartrate	flour treatment agent
490	960	Stevioside	sweetener
491	363	Succinic acid	acidity regulator
492	472g	Succinylated monoglycerides	Emulsifier, Stabilizer, sequestrant
493	446	Succi stearin	emulsifier
494	955	Sucralose	sweetener
495	474	Sucroglycerides	emulsifier
496	444	Sucrose acetate isobutyrate	Emulsifier, stabilizer
497	473	Sucrose esters of fatty acids	emulsifier
498	220	Sulphur dioxide	Preservative, antioxidant
499	513	Sulphuric acid	acidity regulator
500	110	Sunset yellow FCF	colour
501	441	Superglycerinated hydrogenated	emulsifier



		rapeseed oil	
502	309	Synthetic delta-tocopherol	antioxidant
503	308	Synthetic gamma-tocopherol	antioxidant
504	553(iii)	Talc	anticaking agent, dusting powder
505	181	Tannins, food grade	Colour, Emulsifier, Stabilizer, thickener
506	417	Tara gum	Thickener, stabilizer
507	334	Tartaric acid (L(+)-)	acidity regulator, sequestrant, antioxidant synergist
508	472d	Tartaric acid esters of mono-and-di-glycerides of fatty acids	Emulsifier, Stabilizer, sequestrant
509	102	Tartrazine	colour
510	319	Tertiary butylhydroquinone	antioxidant
511	450(v)	Tetrapotassium diphosphate	emulsifier, raising agent, stabilizer sequestrant, acidity regulator water retention agent
512	450(iii)	Tetrasodium diphosphate	Emulsifier, Stabilizer, acidity regulator, raising agent, Sequestrant, water retention agent
513	957	Thaumatococcus	Sweetener, flavour enhancer
514	479	Thermally oxidized soya bean oil with mono-and di-glycerides of fatty acids	emulsifier
515	233	Thiabendazole	preservative
516	388	Thiodipropionic acid	antioxidant
517	171	Titanium dioxide	colour
518	413	Tragacanth gum	Thickener, Stabilizer, emulsifier
519	1518	Triacetin	humectant
520	341(iii)	Tricalcium orthophosphate	acidity regulator, texturizer, flour treatment agent, raising agent, firming agent anticaking agent, water retention agent
521	1505	Triethyl citrate	foam stabilizer
522	343(iii)	Trimagnesium orthophosphate	acidity regulator, anticaking agent
523	451	Tri phosphates	Sequestrant, acidity regulator, texturizer
524	332(ii)	Tripotassium citrate	acidity regulator, Sequestrant, stabilizer
525	340(iii)	Tripotassium orthophosphate	acidity regulator, texturizer, sequestrant stabilizer, Emulsifier, water retention agent



526	331(ii)	Trisodium citrate	acidity regulator, Sequestrant, emulsifier, stabilizer
527	450(ii)	Trisodium diphosphate	Emulsifier, Stabilizer, acidity regulator raising agent, Sequestrant, water retention agent
528	339(iii)	Trisodium orthophosphate	acidity regulator, Sequestrant, emulsifier, Texturizer, Stabilizer, water retention agent
529	100(ii)	Turmeric	colour
530	153	Vegetable carbon	colour
531	161e	Violoxanthin	colour
532	910	Wax esters	glazing agent
533	415	Xanthan gum	Thickener, stabilizer
534	967	Xylitol	Sweetener, Humectant, stabilizer, Emulsifier, thickener
535	107	Yellow 2G	colour
536	557	Zinc silicate	anticaking agent
<b>Supplementary List-Modified Starches</b>			
537	1422	Acetylated distarch adipate	Stabilizer, thickener, binder
538	1423	Acetylated distarch glycerol	Stabilizer, thickener
539	1414	Acetylated distarch phosphate	Emulsifier, thickener
540	1401	Acid-treated starch	Stabilizer, thickener, binder
541	1402	Alkaline treated starch	Stabilizer, thickener, binder
542	1403	Bleached starch	Stabilizer, thickener, binder
543	1400	Dextrins roasted starch white and yellow	Stabilizer, thickener, binder
544	1411	Distarch glycerol	Stabilizer, thickener, binder
545	1412	Distarch phosphate esterified with sodium trimetaphosphate; esterified with phosphorus oxychloride	Stabilizer, thickener, binder
546	1443	Hydroxypropyl distarch glycerol	Stabilizer, thickener
547	1442	Hydroxypropyl distarch phosphate	Stabilizer, thickener
548	1440	Hydroxypropyl starch	Stabilizer, thickener, binder
549	1410	Monostarch phosphate	Stabilizer, thickener, binder
550	1404	Oxidized starch	Stabilizer, thickener, binder
551	1413	Phosphated distarch phosphate	Stabilizer, thickener, binder
552	1420	Starch acetate esterified with acetic anhydride	Stabilizer, thickener
553	1421	Starch acetate esterified with vinyl acetate	Stabilizer, thickener
554	1450	Starch sodium octenyl succinate	Stabilizer, thickener, binder,



			emulsifier
555	1405	Starches, enzyme-treated	[thickener]





**APPENDIX - B      TABLE-1**  
**LIST OF FOOD ADDITIVES FOR USE IN THERMALLY PROCESSED FRUITS**


Sl.No.	Name of Additives	Peaches	Grape Fruit	Pineapple	Plums	Rasp-berries	Pears	Straw-berries	Oranges	Fruit Cocktail/Tropical Fruit Cocktail	Apricot	Palmito	Mango	Guava	Chicku	Pappya	Litchi	Kenu	Pome-granate	Custard Apple	Fruits not specified
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
<b>A.</b>	<b>ACIDIFYING AGENTS</b> (Singly or in combination)																				
	1. Citric Acid	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP
	2. Lactic Acid	-	-	-	-	-	GMP	GMP	-	-	-	GMP	-	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP
<b>B.</b>	<b>ANTICLOUDING AGENTS</b>																				
	1. Methyl Cellulose	-	10 ppm max	-	-	-	-	-	10 ppm max	-	-	-	-	-	-	-	-	-	-	-	-
<b>C.</b>	<b>ANTI-FOAMING AGENTS</b>																				
	1. Dimethyl Poly siloxane	-	-	10 ppm max	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>D.</b>	<b>ANTIOXIDANT</b>																				
	1. Ascorbic Acid	550 ppm max	550 ppm max				550 ppm max		550 ppm max	550 ppm max		550 ppm max	550 ppm max	550 ppm max	550 ppm max	550 ppm max	550 ppm max	550 ppm max	550 ppm max	550 ppm max	550 ppm max
<b>E.</b>	<b>COLOURS</b> (can be used singly or in combination within the specified limits)																				
	<b>(a) Natural:</b>																				
	1. Chlorophyll	-	-	-	200 ppm max	200 ppm max	-	200 ppm max	-	200 ppm max	-	-	-	200 ppm max	200 ppm max	200 ppm max	200 ppm max	200 ppm max	200 ppm max	200 ppm max	200 ppm max
	2. Caramel	-	-	-			-				-	-									
	3. Curcumin or turmeric	-	-	-			-				-	-									
	4. Beta-carotene	-	-	-			-				-	-									
	5. Beta apo-8 carotenal	-	-	-			-				-	-									
	6. Methylene ester of Beta-apo-8 carotenic acid	-	-	-			-				-	-									

	7. Ethylester of Beta apo-8 carote-nic acid	-	-	-	200 ppm max	200 ppm max	-	200 ppm max		200 ppm max	-	-		200 ppm max	200 ppm max	200 ppm max	200 ppm max	200 ppm max	200 ppm max	200 ppm max	200 ppm max	200 ppm max
	8. Canthaxanthin	-	-	-			-				-	-										
	9. Riboflavin, Lactoflavin	-	-	-			-				-	-										
	10. Annatto	-	-	-			-				-	-										
	11. Saffron	-	-	-			-				-	-										
	<b>(b) Synthetic:</b>																					
	1. Poncea 4R	-	-	-	200 ppm max	200 ppm max	-	200 ppm max	-	200 ppm max	-	-	-	200 ppm max	200 ppm max	200 ppm max	200 ppm max	200 ppm max	200 ppm max	200 ppm max	200 ppm max	200 ppm max
	2. Carmoisine	-	-	-			-				-	-										
	3. Erythrosine	-	-	-			-				-	-										
	4. Tartarazine	-	-	-			-				-	-										
	5. Sunset Yellow FCF	-	-	-			-				-	-										
	6. Indigo Carmine	-	-	-			-				-	-										
	7. Brilliant Blue FCF	-	-	-			-				-	-										
	8. Fast green FCF	-	-	-			-				-	-										
<b>F.</b>	<b>FIRMING AGENTS</b> (Singly or in combination)																					
	1. Calcium Chloride	350 ppm max	350 ppm max	-	350 ppm max	350 ppm max	-	350 ppm max	350 ppm max	350 ppm max	350 ppm max	-	350 ppm max	350 ppm max	350 ppm max	350 ppm max	350 ppm max	350 ppm max	350 ppm max	350 ppm max	350 ppm max	350 ppm max
	2. Calcium Lactate	-	350 ppm max	-	-	350 ppm max	-	350 ppm max	-	350 ppm max	-	-										
	3. Calcium Gluconate	-	-	-	-	-	-	350 ppm max	-	-	-	-										
	4. Calcium Carbonate	-	-	-	-	-	-	-	-	-	-	-										
	5. Calcium Bisulphite	-	-	-	-	-	-	-	-	-	-	-										
<b>G.</b>	<b>THICKENING AGENTS</b>																					
	1. Modified starches	-	-	-	-	-	-	-	-	-	-	1% m / m max		-	-	-	-	-	-	-	-	-

APPENDIX - B TABLE-2

LIST OF FOOD ADDITIVES FOR USE IN THERMALLY PROCESSED VEGETABLES

Sl. No.	Name of additives	Canned tomato	Green Beans/Wax Bean	Sweet Corn / Baby Corn	Mushrooms	Green Peas	Carrots	Asparagus	Processed Peas	Ladies Finger	Cauliflower	Brinjal	Sweet Potato	Gherkin	Spinach	Table Onions	Garlic	Bell Paper	Other Vegetable and Curried Vegetable/ready-to-eat Vegetables
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
<b>A. ACIDIFYING AGENTS</b> (Singly or in combination)																			
1	Acetic Acid	GMP	-	GMP	GMP	-	-	GMP	-	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP
2	Citric Acid	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP
3	Lactic Acid	GMP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	L-Tartaric Acid	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP
5	Malic Acid	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP
<b>B. ANTI-OXIDANTS</b> (Singly)																			
1	Ascorbic Acid	-	-	GMP	GMP	-	-	GMP	-	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP
2	BHA	-	-	-	-	-	-	-	-	200 ppm max	200 ppm max	200 ppm max	200 ppm max	200 ppm max	200 ppm max	200 ppm max	200 ppm max	200 ppm max	200 ppm max
3	TBHQ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Acetyl Palmitate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>C. COLOURS</b> (can be used singly or in combination within the specified limits)																			
(a) Natural (Singly or in combination)																			
1	Chlorophyll	-	200 ppm max	-	-	-	-	-	-	200 ppm max	-	-	-	-	-	-	-	-	-
2	Caramel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	Curcumin or turmeric	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Beta-carotene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	Beta-apo-8 carotenol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Methylester of Beta-apo-8 carotenic acid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	Ethylester of Beta-apo-8 carotenic acid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	Canthaxanthin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	Riboflavin, Lactoflavin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	Annatto	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	Saffron	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(b) Synthetic																			
1	Ponceau 4R	-	200 ppm max	-	-	-	-	-	-	200 ppm max	-	-	-	-	-	-	-	-	-
2	Carmoisine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	Erythrosine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Tartrazine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	Sunset Yellow FCF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Indigo Carmine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	Brilliant Blue FCF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	Fast green FCF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>D. FIRMSING AGENTS</b> (singly or in combination)																			
1	Calcium Chloride	0.80% max	-	0.80% max	0.80% max	350ppm max	-	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max
2	Calcium Lactate	Total Calcium in Content	-	Total Calcium in Content	0.80% max (dices, slices, wedges) 0.45% max (whole pieces)	350ppm max	-	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max
3	Calcium Gluconate	-	-	-	-	350ppm max	-	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max	350ppm max
4	Calcium Carbonate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	Calcium Bisulphite	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Mono Calcium Phosphate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	Aluminium Potassium Sulphate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>E. PROCESSING AIDS</b>																			
1	Sodium Chloride	-	-	-	-	-	-	25ppm max	-	-	-	-	-	-	-	-	-	-	-
<b>F. THICKENING Agents</b>																			
1	Vegetable Gums (Singly or in combination)	-	10g/kg max	10g/kg max	1%w/m max	-	-	1%w/m max	-	10g/kg max	10g/kg max	10g/kg max	10g/kg max	10g/kg max	10g/kg max	10g/kg max	10g/kg max	10g/kg max	10g/kg max
(i)																			
i)	Arabic Gum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ii)	Carrageenan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
iii)	Guar Gum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
iv)	Carobbean Gum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
v)	Xanthan Gum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	Alginate (Singly or in Combination)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(i)																			
i)	Ammonium Alginates	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ii)	Calcium Alginates	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
iii)	Potassium Alginates	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(ii)																			
i)	Sodium Alginates	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
v)	Propyl glycol Alginates	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
vi)	Pectines	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>G.</b>																			
1	Calcium Disodium edylendiamine	-	-	-	200 ppm max	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>H. SOFTENING AGENTS</b> (Singly or in combination)																			
1	Sodium Bicarbonate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	Sodium Citrate	-	-	-	-	-	-	-	150 ppm max as Sodium	-	-	-	-	-	-	-	-	-	-

APPENDIX - B  TABLE - 3

LIST OF FOOD ADDITIVE FOR USE IN PROCESSED FRUIT & VEGETABLE PRODUCTS

Sl. No.	Name Of The Additives	Tamarind Pulp / Puree & Conc.	Synthetic Syrups for Dispensers	Tomato Puree & Paste	Vinegar	Carbonated Fruit Beverages or fruit drink	Dehydrated Fruits	Carbonated Water, Softdrink conc. (Liquid / powder)	Dehydrated Vegetable	Frozen Fruit / Fruit Products	Frozen Vegetables	Fruit Based Beverage Mix/ Powdered Fruit Based Beverages
1	2	3	4	5	6	7	8	9	10	11	12	13
<b>A.</b>	<b>ACIDIFYING AGENTS</b> (Singly or in combinations)											
1	Citric Acid	-	GMP	GMP	-	GMP	-	GMP	-	-	-	GMP
2	Fumaric Acid	-		-	-	-	-		-			
3	Lactic Acid	-		GMP	-	-	-		-			
4	L- Tartaric Acid	-		-	-	GMP	-		-			
5	Malic Acid	-		-	-	GMP	-		-			
6	Phosphoric acid	-	GMP in Cola beverages only	-	-	-	-	GMP in Cola beverages only	-	-	-	-
<b>B.</b>	<b>ANTICAKING AGENTS</b> (Singly or in Combinations)	-	-	-	-	-	-	-	-	-	-	-
1	Carbonates of calcium and magnesium	-	-	-	-	-	2% max in powders only	-	2% max in powders only	-	-	2% max in powders only
2	Phosphates of calcium and magnesium	-	-	-	-	-	2% max in powders only	-	2% max in powders only	-	-	2% max in powders only
3	Silicates of calcium, magnesium, aluminium or sodium or silicon dioxide	-	-	-	-	-	2% max in powders only	-	2% max in powders only	-	-	2% max in powders only
<b>C.</b>	<b>ANTIOXIDANTS</b>	-	-	-	-	-	-	-	-	-	-	-
1	Ascorbic Acid	-	GMP	GMP	-	GMP	GMP	GMP	-	-	-	GMP

D.	COLOURS (can be used singly or in combination within the specified limit)											
(a)	<b>Natural:</b>											
1	Chlorophyll	-	200 ppm max	-	GMP Caramel only	100 ppm max	-	100 ppm max	-	-	-	200 ppm max
2	Caramel	-		-			-		-	-		
3	Curcumin or turmeric	-		-			-		-	-		
4	Beta-Carotene	-		-			-		-	-		
5	Beta-apo-8-carotenal	-		-			-		-	-		
6	Methylester of Beta-apo8-carolenic acid	-		-			-		-	-		
7	Ethylester of Beta-apo-8-carolenic acid	-		-			-		-	-		
8	Canthaxanthin	-		-			-		-	-		
9	Riboflavin, Lactoflavin	-		-			-		-	-		
10	Annatto	-		-			-		-	-		
11	Saffron	-		-			-		-	-		
(b)	<b>Synthetic:</b>	-		-		-		-	-	-		
1	Ponceau 4R	-	200 ppm max	-		100 ppm max	-	100 ppm max	-	-	-	200 ppm max
2	Carmoisine	-		-			-		-	-		
3	Erthrosine	-		-			-		-	-		
4	Taratarzine	-		-			-		-	-		
5	Sunset Yellow FCF	-		-			-		-	-		
6	Indigo Carmine	-		-			-		-	-		
7	Brilliant blue FCF	-		-			-		-	-		
8	Fast green FCF	-		-			-		-	-		
<b>E.</b>	<b>FLAVOURS</b>											
1	Natural Flavouring and Natural Flavouring substances / Nature identical flavouring substances/Artificial flavouring substances	-	GMP	-	-	GMP	-	GMP	-	-	-	GMP
<b>F.</b>	<b>PRESERVATIVES (singly or in combination)</b>											
1	Benzoic Acid and its sodium Potassium salt or both (Calculated as Benzoic Acid)	750 ppm max	500 ppm max	750 ppm max	-	120 ppm max	-	120 ppm max	-	-	-	

2	Sulphur dioxide	-	350 ppm max	-	-	70 ppm max	2000 ppm max (except in Raisins & Sultana)	70 ppm max	2000 ppm max	-	-	120 ppm max
<b>G.</b>	<b>THICKENING AGENTS /STABILISING AGENTS/ EMULSIFYING AGENTS</b>											
1	Vegetable Gums (Singly or in combination)											
(i)	Gum Arabic		GMP	-	-	GMP	-	GMP	-	-	-	GMP
2	Alginates (Singly or in Combination)											
(I)	Calcium Alginates		GMP					GMP				
(ii)	Potassium Alginates		GMP			GMP		GMP				
(iii)	Sodium Alginates		GMP					GMP				
3	Pectines		GMP					GMP				GMP
4	Ester gum		450 max					100 ppm max				100 ppm max
5	Xanthan Gum		0.5% max					0.5% max				0.5% max
6	Alginic Acid		GMP			GMP		GMP				GMP
7	Quinine (As Sulphate)		450 ppm max subject to 100 ppm in ready to serve beverage after dilution					100ppm max				100ppm max
<b>H.</b>	<b>Phosphorus Penta Oxide</b>				500 ppm max							
1	Nitrogen				400 ppm max							



**APPENDIX - B                      TABLE - 4**  
**LIST OF FOOD ADDITIVE FOR USE IN PROCESSED FRUIT & VEGETABLE PRODUCTS**

Sl. No.	Name Of The Additives	Candid Crystallised & Glazed Fruit	Murabba / Preserve	Squashes, Crushes, Fruit Syrups, Sherbets, Cordial and Barley Water	Ginger Cocktail (Ginger Beer and gingerale)	Fruit/ Veg Juice Pulp Puree with Preservative for industrial use only	Concentrated fruit/ Veg Juice, Pulp puree with Preservative for industrial use only	Cherry (Thermaily Processed)	Chutney Fruit and / or Vegetable / Mango chutney	Mango /Pulp Puree	Fruit pulp / Puree	Pickles	Green chilli Pastes, Ginger Paste, Onion Paste, Whole chilli Paste
1	2	3	4	5	6	7	8	9	10	11	12	13	14
<b>A.</b>	<b>ACIDIFYING AGENTS</b> (Singly or in combinations)												
1	Acetic Acid	-	-	-	GMP	GMP	GMP	-	GMP	-	GMP	GMP	GMP
2	Citric Acid	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP
3	Lactic Acid	-	-	GMP	GMP	GMP	GMP	-	GMP	-	-	-	GMP
4	L- Tartaric Acid	GMP	GMP	GMP	GMP	-	-	-	GMP	-	-	-	GMP
5	Malic Acid	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP
6	Phosphoric acid	-	-	-	-	-	-	-	GMP	GMP	GMP	-	GMP
<b>B.</b>	<b>ANTIFOAMING AGENT</b>	-											
1	Dimethyl Polysiloxane	-	-	-	-	-	-	-	10 ppm max	-	-	-	GMP
2	Mono and diglycerides of fatty acids and edible oils	-	-	-	-	-	-	-	10 ppm max	-	-	-	GMP
<b>C.</b>	<b>ANTIOXIDANTS</b>												
1	Ascorbic Acid	-	GPM	GPM	GPM	GMP	GMP	-	GMP	-	GMP	-	GMP
<b>D.</b>	<b>COLOURS</b> (can be used singly or in combination within the specified limit)												
(a)	<b>Natural:</b>		-			-	-	-	GMP	-	-	-	GMP
1	Chlorophyll					-	-						
2	Caramel					-	-						
3	Curcumin or turmeric					-	-						
4	Beta-Carotene					-	-						
5	Beta-apo-8-carotenal					-	-						
6	Methylester of Beta-apo8-carolenic acid	200 ppm max	-	200 ppm max (on dilution except cordial and barley water)	200 ppm max	-	-	200 ppm max	GMP	-	-	-	GMP
7	Ethylester of Beta-apo 8-carolenic acid		-			-	-						
8	Canthaxanthin		-			-	-						
9	Riboflavin, Lactoflavin		-			-	-						

10	Annatto		-			-	-			-	-		
11	Saffron		-			-	-			-	-		
(b)	<b>Synthetic:</b>					-	-			-	-	-	
1	Ponceau 4R	200 ppm max	-	200 ppm max	200 ppm max	-	-	200 ppm max	-	-	-	-	
2	Carmoisine		-			-	-		-	-	-		
3	Erthrosine		-			-	-		-	-	-		
4	Taratarzine		-			-	-		-	-	-		
5	Sunset Yellow FCF		-			-	-		-	-	-		
6	Indigo carmine		-			-	-		-	-	-		
7	Brilliant blue FCF		-			-	-		-	-	-		
8	Fast Green FCF		-			-	-		-	-	-		
<b>E.</b>	<b>FIRMING AGENTS</b> (Singly or in combination)												
1	Calcium Chloride	GPM	GPM	-	-	-	-	350 ppm max	350 ppm max (only on fruit/ vegetable pieces)	-	-	350 ppm max (only on fruit/ vegetable pieces)	350 ppm max
2	Calcium Lactate	GPM	GPM	-	-	-	-			-	-		
3	Calcium Gluconate	GPM	GPM	-	-	-	-			-	-		
4	Calcium Carbonate	GPM	GPM	-	-	-	-			-	-		
5	Calcium Bisulphite	GPM	GPM	-	-	-	-			-	-		
<b>F. 1</b>	<b>FLAVOURS</b>												
1	Natural Flavouring and Natural Flavouring Substance	GPM	GPM	GPM	GPM	GPM	GPM	-	-	-	-		-
2	Natural Identical Flavouring substances	GPM	GPM	GPM	GPM	GPM	GPM	-	-	-	-		-
<b>G.</b>	<b>PRESERVATIVES</b> (singly or in combination)												
1	Benzoic Acid & its Sodium & Potassium Salt or both (Calculated as Benzoic Acid)	-	200 ppm max	600ppm max	600ppm max	600ppm max	600ppm max	-	250ppm max	-	-	250ppm max	250ppm max
2	Sulphur dioxide	150 ppm max	40 ppm max	350 ppm max	350 ppm max	1000 ppm max (except Cherry Strawberry, Raspberry where it shall be 2000 ppm max)	1500 ppm max	-	100 ppm max	-	-	100 ppm max	100 ppm max
3	Sorbic acid, calcium Sorbate and Potassium Sorbate expressed as Sorbic Acid	500 ppm max	500 ppm max	1000ppm max	200ppm max	-	100ppm max	-	500 ppm max	-	-	-	500 ppm max
<b>H.</b>	<b>PROCESSING AIDS</b>												



1	Sodium Metabisulphite as Sulphur Dioxide	-	-	-	-	-	-	2000 ppm max	-	-	-	-
1	<b>THICKENING AGENTS</b>											
1	Xanthan Gum	-	-	0.5% max	-	-	-	-	0.5% max	-	-	0.5% max
2	Alginates (singly or in Combination)								GMP			
(I)	Ammonium Alginates	-	-	GMP	-	-	-	-		-	-	GMP
(ii)	Calcium Alginates	-	-		-	-	-	-		-	-	
(iii)	Potassium Alginates	-	-		-	-	-	-		-	-	
(iv)	Sodium Alginates	-	-		-	-	-	-		-	-	
(v)	Propyl glycol Alginates	-	-		-	-	-	-		-	-	
3	Pectines	-	-			-	-	-	-		-	
J	<b>SOFTENING AGENTS</b> (singly or in combination)					-						
1	Sodium Bicarbonate	-	-	-	-	-	-	-	GMP	-	-	GMP
2	Sodium Citrate	-	-		-	-	-	-	GMP	-	-	GMP



APPENDIX - B TABLE - 5

## LIST OF FOOD ADDITIVES FOR USE IN PROCESSED FRUIT AND VEGETABLE PRODUCTS

Sl. No.	Name of Additives	Jam/ Jellies/Fruit Cheese	Citrus Marmalades	Fruit Bar/ Toffee	Fruit / Vegetable Cereal Flakes	Thermally Processed fruit beverage/fruit drink/ready to serve fruit beverages	Tomato Ketchup	Culinary Pastes/ Other Sauces	Soya Bean sauce	Soups	Soup Powder, Fruit Powder, Vegetable Chutney Mixed (dry) Culinary Powder, Seasoning Mixed Powder	Fruit Nectars	Fruit Juices aseptically packed	Vegetable Juices	Concentrated fruit/ Veg. Juices Pulp/ Puree
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b>A.</b>	<b>ACIDIFYING AGENTS</b> (singly or in combination)														
1	Acetic Acid	-	-	-	-	-	GMP	GMP	GMP	-	-	-	-	-	-
2	Citric Acid	GMP	GMP	GMP	-	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP
3	Fumaric Acid	GMP	GMP	GMP	-	GMP	0.3% max	0.3% max	-	-	-	-	-	-	-
4	Lactic Acid	-	-	-	-	-	GMP	GMP	GMP	GMP	GMP	-	-	GMP	GMP
5	L- Tartaric Acid	GMP	GMP	GMP	-	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	-
6	Malic Acid	GMP	GMP	GMP	-	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP
7	Phosphoric Acid	-	-	-	-	-	-	-	-	-	-	-	-	GMP	-
<b>B.</b>	<b>ANTICAKING AGENTS</b> (Singly or in Combinations)														
1	Carbonates of Calcium and Magnesium	-	-	-	-	-	-	-	-	-	2% max	-	-	-	-
2	Phosphates of Calcium and Magnesium	-	-	-	-	-	-	-	-	-	2% max	-	-	-	-
3	Silicates of calcium, magnesium, aluminium or sodium or silicon dioxide	-	-	-	-	-	-	-	-	-	2% max	-	-	-	-
<b>C.</b>	<b>ANTI-FOAMING AGENTS</b>														
1	Dimethyl Polysiloxane	10ppm max	10ppm max	-	-	-	-	10ppm max	-	-	-	-	-	-	10ppm max

2	Mono-and diglycerides of fatty Acids of edible oils	GMP	GMP	-	-	-	-	10ppm max	-	-		-	-	-	10ppm max							
<b>D.</b>	<b>ANTIOXIDANTS</b>																					
1	Ascorbic Acid	GMP	GMP	GMP	GMP	-	GMP	GMP	-	GMP	GMP	GMP	GMP	GMP	GMP							
2	BHA	-	-	-	-	-	-	200ppm max	-	200ppm max	200ppm max	-	-	-	-							
3	TBHQ	-	-	-	-	-	-		-			-	-	-	-	-	-	-				
4	Ascorbyl Palmitate	-	-	-	-	-	-		-			-	-	-	-	-	-	-				
<b>E.</b>	<b>COLOURS</b> (Can be used singly or in combination within the specified limits)																					
(a)	<b>Natural:</b>							GMP for caramel only	GMP	GMP	GMP	-	-	-	-							
1	Cholophyll	GMP	GMP	GMP	-	GMP	-					-	-	-	-	-	-	-	-			
2	Caramel				-		-					-	-	-	-	-	-	-	-	-	-	-
3	Curcumin or turmeric				-		-					-	-	-	-	-	-	-	-	-	-	-
4	Beta-Carotene				-		-					-	-	-	-	-	-	-	-	-	-	-
5	Beta-apo-8-carotenal				-		-					-	-	-	-	-	-	-	-	-	-	-
6	Methylester of Beta apo8-carotenic acid				-		-					-	-	-	-	-	-	-	-	-	-	-
7	Ethylester of Beta-apo-8-carotenic acid				-		-					-	-	-	-	-	-	-	-	-	-	-
8	Canthaxanthin				-		-					-	-	-	-	-	-	-	-	-	-	-
9	Riboflavin, Lactoflavin				-		-					-	-	-	-	-	-	-	-	-	-	-
10	Annatto				-		-					-	-	-	-	-	-	-	-	-	-	-
11	Saffron				-		-	-	-	-	-	-	-	-	-	-	-	-				
(b)	<b>Synthetic:</b>																					
1	Ponceau 4R	200 ppm max	200 ppm max	100 ppm max	-	100 ppm max	-	-	-	100 ppm max	100 ppm max	-	-	-	-							
2	Carmoisine				-		-	-	-			-	-	-	-	-	-	-	-			
3	Erthrosine				-		-	-	-			-	-	-	-	-	-	-	-			
4	Taratarzine				-		-	-	-			-	-	-	-	-	-	-	-			

5	Sunset Yellow FCF				-			-	-	-			-	-	-	-
6	Indigo carmine				-			-	-	-			-	-	-	-
7	Brilliant blue FCF				-			-	-	-			-	-	-	-
8	Fast green FCF				-			-	-	-			-	-	-	-
<b>F.</b>	<b>FIRMING AGENTS</b> (Singly or in combination)												-	-	-	-
1	Calcium Chloride	200ppm max for use only on the fruit pieces	-	-	-	-	-	-	-	-	350 ppm max		-	-	-	-
2	Calcium Lactate		-	-	-	-	-	-	-	-	350 ppm max		-	-	-	-
3	Calcium Gluconate		-	-	-	-	-	-	-	-	350 ppm max		-	-	-	-
4	Calcium Carbonate		-	-	-	-	-	-	-	-	350 ppm max		-	-	-	-
5	Calcium Bisulphite		-	-	-	-	-	-	-	-	350 ppm max		-	-	-	-
<b>G.</b>	<b>FLAVOURS</b>															
1	Natural:Flavouring and Natural Flavouring Substances/ Nature identical substances / artificial flavouring substances	GMP	GMP	GMP	-	GMP	-	GMP	-	-	GMP	-	GMP natural flavours only	GMP natural flavours only	-	-
<b>H.</b>	<b>FLAVOUR ENHANCER</b>															
1	MSG (Enhancer)	-	-	-	-	-	-	GMP	-	GMP	GMP	-	-	-	-	-
<b>I</b>	<b>PRESERVATIVES</b> (singly or in Combination )&its Salt															

1	Benzoic Acids and its Sod. & pot. Salt or both (calculated as Benzoic Acid)	200 ppm max	200 ppm max	200 ppm max	-	120 ppm max	750 ppm max	750 ppm max	750 ppm max	-	-	-	-	-	-
2	Sulphur dioxide (Carry over from fruit Products)	40 ppm max	40 ppm max	40 ppm max	-	70 ppm max	-	-	-	-	1500ppm max	-	-	-	-
3	Sorbic Acid and its Cal, Sod, Pot Salt (calculated as Sorbic Acid)	500 ppm max	500 ppm max	500 ppm max	-	300 ppm max	1000ppm max	1000ppm max	1000ppm max	-	-	50ppm max	-	-	-
<b>J.</b>	<b>PROCESSING AIDS</b>				-					-					
1	Nitrogen and Carbon dioxide	-	-	-	-	-	-	-	-	-	-	-	GMP	GMP	GMP
<b>K.</b>	<b>THICKENING AGENTS</b> (singly or in combination)											-	-	-	-
1	Modified Starches	-	-	-	-	-	0.5% max with declaration on lable	0.5% max with declaration on lable	-	0.5% max	0.5% max	-	-	-	-
2	Vegetable Gums (singly or in Combination)	-	-	-	-	-	-	-	-	0.5% max	0.5% max	-	-	-	-
(I)	Arabic Gum	-	-	-	-	-	-	GMP	-	0.5% max	0.5% max	-	-	-	-
(ii)	Carrageenan	-	-	-	-	-	-	GMP	-	0.5% max	0.5% max	-	-	-	-
(iii)	Guar Gum	-	-	-	-	-	-	GMP	-	0.5% max	0.5% max	-	-	-	-
(iv)	Caribbean Gum	-	-	-	-	-	-	GMP	-	0.5% max	0.5% max	-	-	-	-
(v)	Xanthan Gum	-	-	-	-	-	0.5% max	0.5% max	-	0.5% max	0.5% max	-	-	-	-



APPENDIX - B TABLE - 6

## LIST OF FOOD ADDITIVES FOR USE IN PROCESSED FRUIT &amp; VEGETABLE PRODUCTS

Sl. No.	Name of Additives	Table Olives	Raisins	Dates	Quick Frozen French Fried Potatoes
<b>A.</b>	<b>Acidifying Agents</b> (singly or in combination)				
1	Citric Acid	15gm/kg max	-	-	GMP
2	L-Tartaric Acid	15gm/kg max	-	-	-
3	Acetic Acid	GMP	-	-	-
4	Lactic Acid	15gm/kg max	-	-	-
5	Hydrochloric Acid	GMP	-	-	-
<b>B.</b>	<b>Acidity Regulators</b>				
1	Sodium hydroxide	GMP	-	-	GMP
2	Potassium hydroxide	GMP	-	-	GMP
<b>C.</b>	<b>Antifoaming Agent</b>				
	Dimethyl polysiloxane				10mg/kg on a fat basis Max
<b>D.</b>	<b>Antioxidants</b>				
1	L- Ascorbic Acid	0.2gm/kg max	-	-	GMP
<b>E.</b>	<b>Preservatives</b>				
1	Sulphur Dioxide, Sodium/Potassium/Calcium Sulphite Bisulphite / metabisulphite expressed as SQ		1.5 gm/kg max only SO <sub>2</sub>	-	50mg/kg max only SO <sub>2</sub>
2	Benzoic Acid/ Sodium/ Potassium Benzoate expressed as Benzoic Acid	1 gm/kg max	-	-	-
3	Sorbic Acid/ Sodium/ Potassium ascorbate expressed as sorbic acid	0.5gm/kg max	-	-	-
<b>F.</b>	<b>Colour retention / stabilising agents</b>				
1	Ferrous Gluconate as total iron (Fe)	0.15gm/kg max	-	-	-
2	Ferrous Lactate (Fe)	0.15gm/kg max	-	-	-
<b>G.</b>	<b>Flavour</b>				
1	Natural Flavours and Natural Flavouring Substances	GMP	-	-	-
2	Natural identical flavouring Substances		-	-	-
3	Artificial Flavouring Substances		-	-	-
<b>H.</b>	<b>Flavour Enhancers</b>				
1	Mono-Sodium Glutamate	5.0gm/kg max	-	-	-

<b>I.</b>	<b>Thickening Agents for stuffing olives</b>		-	-	-
1	Sodium Alginates	5.0gm/kg max	-	-	-
2	Xanthan gum	3.0gm/kg max	-	-	-
3	Carageenan	GMP	-	-	-
4	Carob bean gum	GMP	-	-	-
5	Guar gum	GMP	-	-	-
<b>J.</b>	<b>Firming Agents for Stuffed olives</b>			-	-
1	Calcium Chloride	1.5g/kg max as calcium ions in stuffed end product	-	-	-
2	Calcium Lactate		-	-	-
3	Calcium Citrate		-	-	-
<b>K.</b>	<b>Miscellaneous</b>				
1	Mineral Oil (Food grades)	-	5 gm/kg max	-	-
2	Sorbitol	-	5 gm/kg max	GMP	-
3	Glycerol	-	-	GMP	-
4	Dimethyl Polysiloxane	-	-	-	-
5	Carbon Dioxide	GMP	-	-	-
6	Nitrogen	GMP	-	-	-
7	Cultures of Lactic Acid microorganisms	GMP	-	-	-
<b>L.</b>	<b>Sequestrants</b>				
1	Disodium dihydrogen pyrophosphate				100mg/kg singly or in combination (phosphates expressed as P <sub>2</sub> O <sub>5</sub> )
2	Tetra sodium pyrophosphate				
3	Ethylene diamine tetra-acetic acid (Ca-diNA salt)				



APPENDIX - C TABLE - 1

## MICROBIOLOGICAL REQUIREMENTS OF PROCESSED FRUIT &amp; VEGETABLE PRODUCTS

Sl. No.	Products	Parameters	Limits
1	Thermally processed fruit and vegetable products	(a) Total Plate Count (b) Incubation at 37°C for 10 days and 55°C for 7 days	(a) Not more than 50 / ml (b) No change in pH
2 (A)	(i) Dehydrated fruit and vegetable products (ii) Soup powders (iii) Table olives (iv) Raisins (v) Dates	Total Plate Count	Not more than 40,000/ gm
(B)	Dehydrated Onion Powder and Garlic Powder	(a) Total Plate Count (b) Enterobacteraeae (c) Yeast & Mould Count (d) Salmonella	(a) Not more than 5,00,000 cfu/gm (b) Not more than 1500 cfu/gm (c) Not more than 2000 cfu/gm (d) Absent in 25 gm / ml
3	Carbonated beverages, Ready-to-serve beverages including fruit beverages	(a) Total Plate Count (b) Yeast and Mould count (c) Coliform	(a) Not more than 50 cfu / ml (b) Not more than 2.0 cfu / ml (c) Absent in 100 ml
4	Tomato products (a) Tomato Juice and Soups (b) Tomato Puree and Paste (c) Tomato Ketchup and Tomato Sauce	(a) Mould Count (b) Yeast and Spores (a) Mould Count (a) Mould Count (b) Yeast and Spores (c) Total Plate Count	(a) Positive in not more than 40.0 percent of the field examined (b) Not more than 125 per 1/60 c.m.m. (a) Positive in not more than 60.0 per cent of the field examined (a) Positive in not more than 40.0 per cent of the field examined (b) Not more than 125 per 1/60 c.m.m. (c) Not more than 10000/ml
5	Jam / Marmalade / Fruit Jelly / Fruit Chutney and Fruit, Vegetable and Soyabean Sauce	(a) Mould Count (b) Yeast and Spores	(a) Positive in not more than 40.0 percent of the field examined (b) Not more than 125 per 1 /60 c.m.m.
6	Other Fruit and Vegetable products covered under the FPO, 1955	Yeast and Mould Count	Positive in not more than 100 count / gm
7	Frozen fruits and Vegetable products	Total Plate Count	Not more than 40,000 / gm
8	Preserves / Murabba	Mould Count	Absent in 25 gm / ml
9	Pickles	Mould Count	Absent in 25 gm / ml
10	Fruit / Vegetable Cereal Flakes	Mould Count	Absent in 25 gm / ml
11	Candied and Crystallized or Glazed Fruit and Peel	Mould Count	Absent in 25 gm / ml
12	(i) All Fruits and Vegetable Products and Ready to Serve Beverages including Fruit Beverages and synthetic products covered under the FPO, 1955 (ii) Table olives (iii) Raisins (iv) Dates (v) Vinegars	(a) Flat Sour Organisms (b) Staphylococcus Aureus (c) Salmonella (d) Shigella (e) Clostridium botulinum (f) E. Coli	(a) (i) Not more than 10000 cfu/ gm for those products which have pH less than 5.2. (ii) Nil for the those products which have pH more than 5.2. (b) Absent in 25 gm / ml (c) Absent in 25 gm / ml (d) Absent in 25 gm / ml (e) Absent in 25 gm / ml (f) Absent in 1 gm / ml



	(g) Vibro Cholrea	(g) Absent in 25 gm / ml
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**RECOMMENDED INTERNATIONAL CODE  
OF PRACTICE FOR RADIATION PROCESSING OF FOOD  
(CAC/RCP 19-1979, Rev. 2-2003)**

## **INTRODUCTION**

Food irradiation is the processing of food products by ionizing radiation in order to, among other things, control food borne pathogens, reduce microbial load and insect infestation, inhibit the germination of root crops, and extend the durable life of perishable produce. Many countries are using industrial irradiators for processing of food products for commercial purposes.

The regulatory control of food irradiation should take into consideration the *Codex General Standard for Irradiated Foods* (CODEX-STAN 106-1983, Rev. 1-2003) and this Code.

The purpose of regulatory control of irradiated food products should be:

- a) to ensure that radiation processing of food products is implemented safely and correctly, in accordance with all relevant Codex standards and codes of hygienic practice.
- b) to establish a system of documentation to accompany irradiated food products, so that the fact of irradiation can be taken into account during subsequent handling, storage and marketing; and
- c) to ensure that irradiated food products that enter into international trade conform to acceptable standards of radiation processing and are correctly labelled.

The purpose of this Code is to provide principles for the processing of food products with ionizing radiation that are consistent with relevant Codex Standards and codes of hygienic practice. Food irradiation may be incorporated as part of a HACCP-plan where applicable; but a HACCP-plan is not required for the use of radiation processing of food processed for purposes other than for food safety. The provisions of this Code will



provide guidance to the radiation processor to apply the Hazard Analysis and Critical Control Point (HACCP) system, as recommended in *the Recommended International Code of Practice General Principles of Food Hygiene* (CAC/RCP 1-1969, Rev 3-1997, Amd. 1-1999), where applicable for food safety purposes, to foods processed by ionizing radiation.

## **1. OBJECTIVES**

This Codex Code of Practice for Radiation Processing of Food identifies the essential practices to be implemented to achieve effective radiation processing of food products in a manner that maintains quality and yields food products that are safe and suitable for consumption.

## **2. SCOPE, USE and DEFINITIONS**

### **2.1 Scope**

This Code is concerned with food products processed by gamma rays, X-rays or accelerated electrons for the purpose of, among other things, control of food borne pathogens, reduction of microbial load and insect infestation, inhibition of the germination of root crops, and extension of durable life for perishable foods.

This Code covers the requirements of the irradiation process in a facility; it also considers other aspects of the process as primary production and/or harvesting, post-harvest treatment, storage and shipment, packaging, irradiation, labelling, post-irradiation storage and handling, and training.

### **2.2 Use**

The *Recommended International Code of Practice - General Principles of Food Hygiene* (CAC/RCP 1-1969, Rev 3-1997, Amd. 1-1999) and its annex on application of the



HACCP system, as well as other relevant Codex Standards and codes of hygienic practice should be used with this document. Of particular relevance are the *Codex General Standard for Irradiated Foods* (CODEX-STAN 106-1983 - Rev.1-2003) and the *General Standard for the Labelling of Pre-Packaged Foods* (CODEX-STAN 1-1985, Rev 1-1991).

### 2.3 Definitions

For purposes of this Code, the terms below are defined as follows:

**Food Irradiation:** Processing of food products by ionizing radiation, specifically gamma rays, X-rays or accelerated electrons as specified in the Codex General Standard for Irradiated Foods.

**Irradiated Food:** Food products processed by ionizing radiation in accordance with the Codex General Standard for Irradiated Foods. Such food is subject to all relevant standards, codes and regulations applicable to the non-irradiated counterpart.

**Dosimetry:** The measurement of the absorbed dose of radiation at a particular point in a given absorbing medium.

**Dose (absorbed):** The absorbed dose, sometimes referred to simply as 'dose', is the amount of energy absorbed per unit mass of irradiated food product.

**Dose Uniformity Ratio:** The ratio of maximum to minimum absorbed dose in the production lot.

**Dose Distribution:** The spatial variation in absorbed dose throughout the production lot with extreme values being the maximum absorbed dose and the minimum absorbed dose.



**Dose Limit:** The minimum or maximum radiation dose absorbed by a food product prescribed in regulations as required for technological reasons. Such dose limits are expressed as ranges or as single lower or upper values (i.e., no part of the food product shall absorb less than or more than a specified amount).

### **3. PRE-IRRADIATION TREATMENT**

#### **3.1 Primary production and/or harvesting**

Primary food products intended for radiation processing should comply with the Codex General Principles of Food Hygiene with reference to the hygienic requirements as well as other relevant Codex standards and codes of practice for primary production and/or harvesting, which ensure that food is safe and suitable for human consumption.

#### **3.2 Handling, storage and transport**

The intent to process food products by irradiation poses no unique requirements regarding handling, storage and transport of the food products prior to and subsequent to irradiation. All stages of the processing, i.e., pre-irradiation, irradiation and post-irradiation, should be in accordance with good manufacturing practices to maximize quality, to minimize contamination, and, if packaged, to maintain package integrity.

Radiation is applied to food products in forms in which they are normally prepared for processing, commercially traded or otherwise used. Food intended for radiation processing should conform to handling, storage and transport requirements of the Codex General Principles of Food Hygiene as well as relevant Codex standards and codes of practice for specific food products.

### **4. PACKAGING**



In general, in order to avoid contamination or infestation after irradiation, food products should be packaged in materials that provide an effective barrier to re-contamination and re-infestation. Packaging must also meet the requirements of the importing country.

The size and shape of containers that may be used for irradiation are determined, in part, by the operating characteristics of the irradiation facility. These characteristics include the product transport systems and the irradiation source, as they affect the dose distribution within the container.

## **5. ESTABLISHMENT: DESIGN, FACILITIES and CONTROL**

Authorization of a facility to irradiate food is granting approval to a facility licensed for radiation processing in general to irradiate food products. Authorization may be general in nature or issued for specific classes or groups of food products.

Facilities which carry out irradiation of food products should meet appropriate standards of occupational safety and good hygiene conditions, including:

- Regulations regarding design, construction and operation of radiation facilities
- General Principles of Food Hygiene
- General Standard for Irradiated Foods and this Code.

### **5.1 Design and layout**

This section is concerned with the areas in which food products are stored and irradiated. Prevention of contamination requires that all measures be taken to avoid direct or indirect contact of the food product with sources of potential contamination and to minimize growth of microorganisms.



Irradiation establishments are laid out to provide storage for irradiated and non-irradiated food products (under ambient, refrigerated and/or freezing temperature conditions), an irradiator, and the normal accommodation and infrastructure for staff and plant services including record maintenance. In order to achieve inventory control there should be provision in both the design and operation of the establishment to keep irradiated and non-irradiated food products separate. This separation can be accomplished by controlled single direction movement of the food products through the plant and by separated storage areas for irradiated and non-irradiated food products.

Radiation facilities must be designed to provide an absorbed dose in the food product within minimum and maximum limits in accordance with process specifications and government regulatory requirements. For economic and technical reasons (e.g. maintaining product quality), various techniques are used to minimize the ratio, which is termed the dose uniformity ratio.

The following factors largely govern the selection of irradiator design:

- a) Means of transporting food products: The mechanical design of the irradiation and transport systems, including the source-to-product geometry in a given process, as required by the form of the product, e.g. bulk or packaged, and its properties.
- b) Range of doses: The range of doses needed to process a wide variety of products for various applications.
- c) Throughput: The amount of product to be processed within a defined period of time.
- d) Reliability: The property of providing correct performance as needed.



- e) Safety-systems: The systems intended to protect operating personnel from hazards posed by radiation.
- f) Compliance: The adherence to good manufacturing practices and relevant government regulations.
- g) Capital and operational costs: The basic economic considerations necessary for sustainable operation.

## 5.2 Radiation sources

As described in the *Codex General Standard for Irradiated Foods*, the following sources of ionizing radiation may be used in food irradiation:

- a) Gamma rays from radionuclides  $^{60}\text{Co}$  or  $^{137}\text{Cs}$ ;
- b) X-rays generated from machine sources operated at or below an energy level of 5 MeV; and
- c) Electrons generated from machine sources operated at or below an energy level of 10 MeV.

## 5.3 Control of operation

### 5.3.1 Legislation

Food processing establishments are constructed and operated in accordance with regulatory requirements in order to ensure safety of the processed foods for consumption and occupational safety of the plant personnel and the environment. A food irradiation facility, like any other food processing plant, is also subject to such regulation and should be designed, constructed and operated in compliance with relevant regulations.





### **5.3.2 Requirements for staff**

The staff at an irradiation facility is subject to relevant sections of the *Recommended International Code of Practice General Principles of Food Hygiene* (CAC/RCP 1-1969, Rev 3-1997, Amd. 1-1999) for personal hygiene recommendations and to the General Standard for Irradiated Foods for recommendations regarding the need for an adequate, trained and competent personnel.

### **5.3.3 Requirements for process control**

Requirements for process control are included in the General Standard for Irradiated Foods. Measuring the dose and monitoring of the physical parameters of the process are essential for process control. The need for adequate record keeping, including records of quantitative dosimetry, is emphasized in the General Standard. As for other physical methods of food processing, records are essential means for the regulatory control of processing by ionizing radiation. Evidence for correct processing, including adherence to any legal or technological dose limits, depends on the maintenance of full and accurate records by the irradiation facility. The facility's records link all the information from several sources to the irradiated food products. Such records enable verification of the irradiation process and should be kept.

### **5.3.4 Control of applied dose**

The effectiveness of the irradiation process depends on proper application of the dose and its measurement. Dose distribution measurements should be carried out to characterize the process for each food product; and thereafter dosimeters should be used routinely to monitor correct execution of the process in accordance with internationally accepted procedures.



For certain public health or quarantine applications, there may be specific requirements to regulate the minimum absorbed dose in order to ensure that the desired technological effect is achieved.

### **5.3.5 Product and inventory control**

An adequate system should be in place so that specific consignments of food products can be traced back both to the irradiation facility and the source from which they were received for processing. Plant design and administrative procedures should ensure that it is impossible to mix irradiated and non-irradiated food products. Incoming products should be logged and given a code number to identify the packages at each step in its path through the irradiation plant. All relevant parameters such as date, time, source strength, minimum and maximum dose, temperature, etc. should be logged against the code number of the product. It is not possible to distinguish irradiated from non-irradiated product by visual inspection. Therefore, it is essential that appropriate means, such as physical barriers, be employed for keeping the irradiated and non-irradiated product separate. Affixing colour change indicator label on each package, where applicable, provides another means of distinguishing irradiated and non-irradiated product.

## **6. IRRADIATION**

### **6.1 General**

Refer to the *Codex General Standard for Irradiated Foods* (CODEX-STAN 106-1983, Rev. 1-2003).

### **6.2 Process determination**

It is important that all steps in the determination of process procedures are documented to:



- a) ensure that the application of the process complies with relevant regulatory requirements;
- b) establish a clear statement for the technological objectives of the process;
- c) estimate the dose range to be applied to achieve the technological objective based on appropriate knowledge of the food product;
- d) demonstrate that irradiation of test samples has been carried out to confirm the estimated dose range under practical production conditions;
- e) ensure that it is possible to meet the technological requirements, e.g. dose range and effectiveness of treatment, under practical production conditions; and
- f) establish the process parameters under practical production conditions.

### **6.3 Dosimetry**

Successful radiation processing practice depends on the ability of the processor to measure the absorbed dose delivered to each point in the food product and in the production lot.

Various techniques for dosimetry pertinent to radionuclide and machine sources are available for measuring absorbed dose in a quantitative manner. Relevant ISO/ASTM Standard Practices and Guides for dosimetry in food irradiation facilities have been developed and should be consulted.

In order to implement these irradiation practices, competent personnel trained in dosimetry and its application in radiation processing should adequately staff facilities.



The calibration of the dosimetry system used in radiation processing should be traceable (i.e., calibrated) to national and international standards.

#### **6.4 Dosimetry systems**

Dosimeters are devices that are capable of providing a quantitative and reproducible measurement of dose through a change in one or more of the physical properties of the dosimeters in response to the exposure to ionizing radiation energy. A dosimetry system consists of dosimeters, measurement instruments and their associated reference standards, and procedures for the system's use. Selection of appropriate dosimetry system for radiation processing of food will depend on a variety of factors, including the dose range needed to achieve a particular technological objective, cost, availability, and ease of use. A variety of dosimetry systems are available.

#### **6.5 Dosimetry and process control**

In food irradiation, the key quantity that governs the process is the absorbed dose. It is influenced by various parameters, such as: radiation source type, strength and geometry; conveyor speed or dwell time; food product density and loading configuration; and carrier size and shape. Their overall influence on dose distribution must be taken into account to ensure that the intended technological objective is achieved throughout the production lot.

The application of radiation processing is mainly governed by the minimum absorbed dose achieved in the dose distribution within a given product. If the required minimum is not applied, the intended technical effect may not be achieved (e.g. sprout inhibition, pathogen reduction). There are also situations where the application of too high a dose would impair the quality of the treated food (e.g. off flavours or odours).

#### **6.6 Records of irradiation**



Radiation processors should maintain adequate records showing the food processed, identifying marks if packaged or, if not, the shipping details, the bulk density of the food, the dosimetry results, including the type of dosimeters used and details of their calibration, the date of irradiation and the type of radiation source. All documentation should be available to authorized personnel and accessible for a period of time established by food control authorities.

## **6.7 Control of hazards**

Controls of microbiological hazards are described in the *Recommended International Code of Practice -General Principles of Food Hygiene* (RCP 01-1969, Rev 3-1997, Amd 1-1999).

The radiation processor should apply HACCP principles, as described in the Codex Hazard Analysis Critical Control Point System and Guidelines for Its Application (1999), as appropriate. In the overall HACCP context, irradiation is a means of reducing hazards associated with infectious parasites and microbial contamination of foods and may be used as a method of control.

## **7. POST-IRRADIATION STORAGE AND HANDLING**

Refer to the *International Code of Practice - General Principles of Food Hygiene* (RCP 01-1969, Rev 3-1997, Amd 1-1999) for general storage and handling guidance.

## **8. LABELLING**

The *Codex General Standard for Irradiated Foods* (CODEX-STAN 106-1983, Rev.1 - 2003) and the *Codex General Standard for the Labelling of Pre-Packaged Foods* (CODEX-STAN-002, Rev. 1-1991) contain provisions for labelling of irradiated foods, including the internationally recognized symbol (logo) and the inclusion of information in shipping documents, and for the labelling of prepackaged irradiated foods,



respectively. All food labelling must meet any additional requirements established by competent.



## Appendix - E

### OFFENCES AND PENALTIES

#### General provisions relating to offences

A. (1) A person may render any article of food injurious to health by means of one or more of the following operations, namely: -

- (a) adding any article or substance to the food,
- (b) using any article or substance as an ingredient in the preparation of the food:
- (c) abstracting any constituents from the food; or
- (d) subjecting the food to any other process or treatment; with the knowledge that it may be sold or offered for sale or distributed for human consumption.

(2) In determining whether any food is unsafe or injurious to health, regard shall be had to –

- (a) (i) the normal conditions of use of the food by the consumer and thus handling at each stage of production, processing and distribution.
- (ii) the information provided to the consumer, including information on the label, or other information generally available to the consumer concerning the avoidance of specific adverse health effects from a particular food or category of foods not, only to the probable, immediate or short-term or



effects of that food on the health of a person consuming it, but also on subsequent generations;

(iii) to the probable cumulative toxic effects:

(iv) to the particular health sensitivities of a specific category of consumers where the food is intended for that category of consumers, and

(v) also to the probable cumulative effect of food of substantially the same composition on the health of a person consuming it in ordinary quantities:

- (b) the fact where the quality or purity of the article, being primary food, has fallen below the specified standard or its constituents are present in quantities not within the specified limits of variability, in either case, solely due to natural causes and beyond the control of human agency, then such article shall not be deemed to be unsafe or sub-standard or food containing extraneous matter.

**Explanation** – For the purposes of this section, “injury”, includes any impairment, whether permanent or temporary, and “injurious to health”, shall be construed accordingly.

**General provision relating to penalty.**

**B.** While adjudging the quantum of penalty under this Chapter, the Adjudicating Officer or the Tribunal, as the case may be, shall have due regard to the following: -

- (a) the amount, of gain or unfair advantage, wherever quantifiable made as a result of the contravention.





- (b) the amount of loss caused or likely to cause to any person as a result of the contravention.
- (c) the repetitive nature of the contravention.
- (d) whether the contravention is without his knowledge, and
- (e) any other relevant factor;

#### **Penalty for selling food not of the nature or substance or quality demanded**

- C.** Any person who sells to the purchaser's prejudice any food which is not in compliance with the provision of this Act or the regulations made thereunder, or of the nature or substance or quality demanded by the purchaser, shall be liable to a penalty not exceeding five lakh rupees.

Provided that the persons covered under sub-section (2) of section 31, shall for such non-compliance be liable to a penalty not exceeding twenty five thousand rupees.

#### **Penalty for sub-standard food**

- D.** Any person who whether by himself or by any other person on this behalf manufactures for sale or stores or sells or distributes or imports any article of food for human consumption which is sub-standard, shall be liable to a penalty which may extend to five lakh rupees.



### **Penalty for misbranded food**

- E.** (1) Any person who whether by himself or by any other person on his behalf manufactures for sale or stores or sells or distributes or imports any article of food for human consumption which is misbranded, shall be liable to a penalty which may extend to three lakh rupees.
- (2) The Adjudication Officer may issue a direction to the person found guilty of an offence under this section, for taking corrective action to rectify the mistake or such article of food shall be destroyed.

### **Penalty for misleading advertisement**

- F.** (1) Any person who publishes, or is a party to the publication of an advertisement, which –
- (a) falsely describes any food; or
  - (b) is likely to mislead as to the nature or substance or quality of any food or gives false guarantee, shall be liable to a penalty which may extend to ten lakh rupees.
- (2) In any proceeding the fact that a label or advertisement relating to any article of food in respect of which the contravention is alleged to have been committed contained an accurate statement of the composition of the food shall not preclude the court from finding that the contravention was committed.



### **Penalty for food containing extraneous matter**

- G.** Any person whether by himself or by any other person on his behalf manufactures for sale or stores or sells or distributes or imports any article of food for human consumption containing extraneous matter, shall be liable to a penalty which may extend to one lakh rupees.

### **Penalty for failure to comply with the directions of the Food Safety Officer**

- H.** If a food business operator or importer without reasonable ground, fails to comply with the requirements of this Act or the rules or regulations or orders issued thereunder, as directed by the Food Safety Officer, he shall be liable to a penalty which may extend to two lakh rupees.

### **Penalty for unhygienic or unsanitary processing or manufacturing of food**

- I.** Any person who, whether by himself or by any other person on his behalf, manufactures or processes any article of food for human consumption under unhygienic or unsanitary conditions, shall be liable to a penalty which may extend to one lakhs rupees.

### **Penalty for possessing adulterant**

- J.** (1) Subject to the provisions of this Chapter, if any person who whether by himself or by any other person on his behalf, imports or manufactures for sale, or stores, sells or distributes any adulterant shall be liable –



- (i) where such adulterant is not injurious to health, to a penalty not exceeding two lakh rupees;
  - (ii) where such adulterant is injurious to health, to a penalty not exceeding ten lakh rupees.
- (2) In a proceeding under sub-section (1), it shall not be a defence that the accused was holding such adulterant on behalf of any other person.

#### **Penalty for contraventions for which not specific penalty is provided**

- K.** Whoever contravenes any provisions of this Act or the rules or regulations made thereunder, for the contravention of which no penalty has been separately provided in this Chapter, shall be liable to a penalty which may extend to two lakh rupees.

#### **Punishment for unsafe food**

- L.** Any person who, whether by himself or by any other person on his behalf, manufactures for sale or stores or sells or distribute or imports any article of food for human consumption which is unsafe, shall be punished. –
- (i) where such failure or contravention does not result in injury, with imprisonment for a term which may extend to six months and also with fine which may extend to one lakh rupees;
  - (ii) where such failure or contravention results in a non-grievous injury, with imprisonment for a term which may extend to one year and also with fine which may extend to three lakh rupee;



- (iii) where such failure or contravention results in a grievous injury, with imprisonment for a term which may extend to six years and also with fine which may extend to five lakh rupees.
- (iv) Where such failure or contravention results in death, with imprisonment for a term which shall not be less than seven years but which may extend to imprisonment for life and also with fine which shall not be less than ten lakh rupees.

#### **Punishment for interfering with seized items**

- M.** If person without the permission of the Food Safety Officer, retains, removes or tampers with any food, vehicle, equipment, package or labelling or advertising material or other thing that has been seized under this Act, he shall be punishable with imprisonment for a term which may extend to six months and also with which may extend to two lakh rupees.

#### **Punishment for false information**

- N.** If a person, in connection with a requirement or direction under this Act. Provides any information or produces any document that the person knows is false or misleading, he shall be punishable with imprisonment for a term which much extend to three months and also with fine which may extend to two lakh rupees.



### **Punishment for obstructing or impersonating a Food Safety Officer**

- O.** If any person or food business operator (except the persons exempted from licensing under sub-section (2) of section 31 of this Act), himself or by any person on his behalf who is required to obtain licence, manufactures, sells, stores or distributes or imports any article of food without licence, shall be punishable with a fine which may extend to five lakh rupees.

### **Punishment for carrying out a business without licence.**

- P.** If any person or food business operator (except the persons exempted from licensing under sub-section (2) of section 31 of this Act), himself or by any person on his behalf who is required to obtain licence, manufactures, sells, stores or distributes or imports any article of food without licence, shall be punishable with imprisonment for a term which may extend to six months and also with a fine which may extend to five lakh rupees.

### **Punishment for subsequent offences.**

- Q.** (1) If any person, after having been previously convicted of an offence punishable under this Act subsequently commits and is convicted of the same offence, he shall be liable to

—

- (i) twice the punishment, which might have been imposed on a first conviction, subject to the punishment being maximum provided for the same offence;
- (ii) a further fine on daily basis which may extend up to one lakh rupees, where the offence is a continuing one; and



(iii) his licence shall be cancelled.

(2) The Court may also cause the offender's name and place of residence, the offence and the penalty imposed to be published at the offender's expense in such newspapers or in such other manner as the court may direct and the expenses of such publication shall be deemed to be part of the cost attending the conviction and shall be recoverable in the same manner as a fine.

**Compensation in case of injury or death of consumer.**

**R.** (1) Without prejudice to the other provisions of this Chapter, if any person whether by himself or by any other person on his behalf, manufactures or distributes or sells or imports any article of food causing injury to the consumer or his death, it shall be lawful for the Adjudicating Officer or as the case may be, the court to direct him to pay compensation to the victim or the legal representative of the victim, a sum –

(a) not less than five lakh rupees in case of death;

(b) not exceeding three lakh rupees in case of grievous injury; and

(c) not exceeding one lakh rupees, in all other cases of injury;

Provided that the compensation shall be paid at the earliest and in no case later than, six months from the date of occurrence of the incident:

Provided further that in case death, an interim relief shall be paid to the next of the kin within thirty days of the incident.



- (2) Where any person is held guilty of an offence leading to grievous injury or death, the Adjudicating Officer or the court may cause the name and place of residence of the person held guilty, the offence and the penalty imposed to be published at the offender's expense in such newspapers or in such other manner as the Adjudicating Officer or the court may direct and the expenses of such publication shall be deemed to be part of the cost attending the conviction and shall be recoverable in the same manner as a fine.
- (3) The Adjudicating Officer or the court may also,-
- (a) order for cancellation of licence, recall of food from market, forfeiture of establishment and property in case of grievous injury or death of consumer;
  - (b) issue prohibition orders in other cases.

### **Offences by companies**

- S.** (1) Where an offence under this Act which has been committed by a company, every person who at the time the offence was committed was in charge of, and was responsible to, the company for the conduct of the business of the company, as well as the company, shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly:

Provided that where a company has different establishments or branches or different units in any establishment or branch, the concerned Head or the person in-charge of such establishment, branch, unit nominated by the company as responsible for food safety shall be liable for contravention in respect of such establishment, branch or unit:





Provided further that nothing contained in this sub-section shall render any such person liable to any punishment provided in this Act, if he proves that the offence was committed without his knowledge or that he exercised all due diligence to prevent the commission of such offence.

- (2) Notwithstanding anything contained in, sub-section (1), where an offence under this Act has been committed by a company and it is proved that the offence has been committed with the consent or connivance of or is attributable to any neglect on the part of, any director, manager, secretary or other officer of the company, such director, manager, secretary or be liable to be proceeded against and punished accordingly.

**Explanation – For the purpose of this section, -**

- (a) “company” means any body corporate and includes a firm or other association of individuals; and
- (b) “director” in relation to a firm, means a partner in the firm.

**Penalty for contravention of provisions of this Act in case of import of articles of food to be in addition to penalties provided under any other Act.**

- T.** (1) Any person who imports any article of food which is in contravention of the provisions of this Act, rules and regulations made thereunder, shall, in addition to any penalty to which he may be liable under the provisions of the Foreign Trade (Development and Regulation) Act, 1992 (22 of 1992) and the Customs Act, 1962 (52 of 1962) be also liable under this Act and shall be proceeded against accordingly.



(2) Any such article of food shall be destroyed or returned to the importer, if permitted by the competent authority under the Foreign Trade (Development and Regulation) Act, 1922 (22 of 1992) or the Customs Act, 1962 (52 of 1962), or any other Act, as the case may be.

**Explanatory Notes: - (Clause A to T)**

Please note that while adjudging the quantum of penalty, the **Adjudicating Officer** or the **Tribunal** as the case may be, shall have consideration to the amount of gain or unfair advantage or loss caused or likely to cause to any person; repetitive nature of contravention, knowledge of the **Food Business Operator** etc.

But following are the Penalties for different contraventions/offences: -

Sl. No.	Clause	Contravention/Offence	Penalty
1	C	Food not conforming to the quality demanded	Not exceeding Rs 25,000/-
2	D	Sub-standard food	May extend to Rs. Five Lakh
3	E	Misbranded food	May extend to Rs. Three lakhs
4	F	Misleading Advertisement	May extend to Rs. Ten lakh
5	G	Food containing extraneous matter	May extend to Rs. One Lakhs
6	H	Failure to comply with the directions of Food Safety Officer	May extend to Rs. Two Lakhs
7	I	Unhygienic or unsanitary processing or manufacturing of food	May extend to Rs. One Lakhs



8	J	Possession of adulterant: -  (i) adulterant not injurious to health (ii) adulterant injurious to health	(i) May extend to Rs. Two Lakhs  (ii) May extend to Rs. Ten Lakhs
9	K	Contraventions for which no specific penalty is provided	May extend to Rs. Two Lakhs
10	L	Unsafe food: -  (i) contravention which does not result in injury  (ii) contravention resulting in a non-grievous injury  (iii) contravention resulting in a grievous injury  (iv) contravention resulting in death	(i) Imprisonment upto Six Months and fine upto Rs. One Lakh  (ii) Imprisonment upto One year and fine  (iii) Imprisonment upto Six year and fine upto Rs. Five Lakhs  (iv) Imprisonment not less than Seven Years even or life imprisonment and fine not less Rs. Ten lakhs
11	M	Interfering with seized items and fine upto Rs. Two Lakhs	Imprisonment upto Six Months
12	N	False information	Imprisonment upto Three Moths



			and fine upto Rs. Two Lakh
13	O	Obstructing or impersonating Food Safety Officer	Imprisonment upto Three Moths and fine upto Rs. One Lakh
14	P	Carrying out a food business without licence	Imprisonment upto Six Months and fine upto Rs. Five Lakhs
15	Q	Subsequent offences even after having been convicted of an offence punishable under this Act (I) Repetition of the offence  (ii) In the eventuality of continuing  (iii) Repetition continuing	(I) Twice the punishment which might have been imposed of first conviction  (ii) Fine on daily basis-which may extend upto Rs. One Lakh  (iii) License may be cancelled
16	R	Compensation in case of injury or death: - (I) Death of consumer  (ii) Grievous injury to consumer  (iii) other case of injury to consumer	(I) Not less than Rs. Five Lakhs  (ii) Not exceeding Rs. Three Lakhs  (iii) Not exceeding Rs. One Lakhs



17	T	Import of article of food which is in contravention of the provisions of this Act/Rules thereunder	Punishable under the provisions of Foreign Trade (Development and Regulation) Act-1992 and the Custom Act-1962 as well as under this Act
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## CHAPTER - 7

### SUGGESTIONS AND RECOMMENDATIONS

#### 7.1 BACKGROUND

When the project was initiated by the Consultants, it was important to understand the purpose and scope of the FPO order 1955 as it currently stood. Consultants understand that the FPO order 1955 was established under the Essential Commodities Act 1955 so as to regulate the Fruit and Vegetable industry in India. It contains specification and quality control requirements which the Fruit and Vegetable processing industry has to adhere. A Fruit and Vegetable processing unit is given a FPO license only if the specification and requirements mentioned within FPO order are followed. The FPO order is divided into 3 main sections which are as follows :-

- Section I - It reflects 16 clauses which define the policy, procedure and requirements, which guide the Fruit Products, order.
- Section II - This section has 5 forms which are required for license issuance and maintenance of records during a processing unit operations.
- Section III - This section reflects specifications required to be maintained to manufacture a product. These specifications are product, additive, and sanitary requirements, which need to be maintained while running a Fruit and Vegetable processing plant.

After discussion with various people in the industry, associations of industry and consumers and past & present FPO people, besides the consultant's views and experiences in this industry, this order was reviewed.

Therefore a summary of suggestions and recommendation made by consultants has been summed up within the under-mentioned sections.



## **7.2 REVIEW OF CLAUSES**

**7.2.1 Title** – The consultants have understood the said order to cover the entire Fruit and Vegetable processing industry in India. However, the title of Fruit Products Order does not do justice to the same. The Consultants have therefore recommended that the reviewed order be called Fruit & Vegetable Products Order, 1955, Reviewed 2008.

### **7.2.2 Definitions**

After assessment of developments that have taken place in the Fruit and Vegetable processing Industry in India, the Consultants have accessed the current FPO to have limited definitions. Definitions as mentioned in Codex, PFA, FSSA, and Euro standards have been reviewed and with this perspective relevant definitions have been added to FPO order. Consultants have put 56 relevant definitions so as to give a better perspective to the FPO order. The same are reflected in the section 3.2 of the report.

### **7.2.3 Technical Committee**

It is the understanding of the Consultants that after passing of the Food Safety and Standards Act (FSSA), the place of Central Fruit Products Advisory Committee mentioned within the FPO will be replaced by the Food Authority. It has therefore been suggested in the report, a Technical Committee under the Chairperson of the Director FPO is formed. This Committee will report to the Food Authority. Any changes or amendments required within FPO in future should be referred to this technical committee. The suggested constitution of the FPO technical committee has been detailed in section 3.3 of this report.

### **7.2.4 License**

As it currently stands, the Licensing year for the FPO license given is for the period of January to December. Based on the feedback received by Consultants from different FPO officials, the Licensing period of the FPO license has been changed to



a financial year format of 1<sup>st</sup> April to 31<sup>st</sup> March of any given year. Details of the same have been mentioned in section 3.4 of this report.

#### **7.2.5 Application and Fees for License**

The Consultants found that the licensing fees for different Industry categories were almost negligible. This has been suggested to be increased to nominal fees. Details of the same are reflected in section 3.5 of this report.

#### **7.2.6 Filing And Maintain of Forms**

The clauses 9 and 9A which reflect filing and maintenance of Form 'C', 'D' and 'E' within of the current FPO has been merged into 3.9.

#### **7.2.7 Composition**

The Consultants have elaborated composition of "Non-Fruit beverages" under different heads in detail. This will help to avoid any ambiguity.

#### **7.2.8 Offences and Penalties**

The Consultants understand that FPO is an order established under the Essential Commodities Act 1955. Therefore offences and penalties mentioned within the ECA 1955 are applicable on the FPO order 1955. However, the FPO itself does not mention any offences and penalties. The consultants have therefore understood the offences and penalties mentioned in the FSSA act, PFA as well as ECA act. The offences and penalties mentioned in FSSA are found to be best applicable on FPO, therefore, the same has been incorporated within the reviewed FPO

**7.2.9 Other Legal Recommendation** – All clauses mentioned within FPO have been reviewed from a legal perspective and have been improved upon. Some example of the same include inclusion of Recall provision, defining premises of the manufacturer, scenario in case of application for renewal of license pre and post expiry, etc.





### **7.3 REVIEW OF FIRST SCHEDULE**

The first schedule contains 5 forms, namely:-

- Form A - Application for FPO License.
- Form B - License under FPO
- Form C - Sales register form.
- Form D - Daily production register
- Form E - Stock register

Consultants suggest following addition to the said forms:-

- Form A - (b) Phone/Mobile No.  
(c) E-mail address added in item 2.

The above-mentioned items should be added to the form due to the increasing use of mobile numbers and emails in today's modern age.

- Form B1 - A new Form B1 has been suggested for inspection report to be maintained by licensee. Details of the same are reflected in Chapter 4.

### **7.4 REVIEW OF SECOND SCHEDULE**

#### **7.4.1 Code of Practice for Hygiene**

Standard Code of Practice of Hygiene for Processed Fruits and Vegetables has been suggested in place of Sanitary Requirement of a Factory manufacturing fruit product. This shall provide better opportunity to maintain hygiene for production and process, which are safe and non-injurious to health. These standards have been based on the Codex-recommended International Code of Hygienic Practice for Canned Fruit and Vegetable Products (CAC/RCP-2, 1969) and Recommended International Code of Practice- General Principles of Food Hygiene (CAC/RCP-1, 1969, and BIS (IS:6542 – 1972 and IS:2491 – 1998). The details of the same are reflected in section 5.1 of this report.



#### **7.4.2 Categories of Factories**

The current FPO order does not have any category, which reflects medium scale industry or a unit undertaking the role of a Re-packer. Based on the feedback received, new categories of a medium scale unit and a Re-packer have been added to the reviewed FPO. Micro, Small, Medium Enterprise Development (MSME) Act 2006 Act categorization has been considered prior to suggesting on the above. The suggested categorization has been based upon the investment undertaken by an Entrepreneur / Enterprise into Plant and Machinery. The current FPO categorization of industries is based upon production capacity of a Unit. Details pertaining to the same are reflected in section 5.2 of this report.

#### **7.4.3 Technical Staff and Laboratory Requirements**

The Consultants have suggested a minor modification to this section. Minimum required qualification for Large, Medium, as well as Small unit has been changed. Further, a separate production in-charge and quality in-charge has been recommended for Large as well as Medium enterprise. Details of the same are reflected in section 5.2.2 of this report.

#### **7.4.4 Minimum Plant and Machinery requirement**

The current FPO defines minimum plant and machinery which a Cottage, Small and Large enterprise should have. The consultants consider such defined categorizations as unnecessary. Once the current definitions as put in MSME Act 2006 are considered, the need to further define the minimum plant and machinery requirements gets evaporated.

### **7.5 STANDARDS FOR PROCESSES FRUIT AND VEGETABLE PRODUCTS**

Consultants consider review of standards as a key area of scope of work of the assignment at hand. Recent development in Science and Technologies has led to much improvement in processing and packaging technologies for derivatives of fruits and Vegetables. Further, many new fruit and vegetable derived products have also been introduced to which a consumer has already developed a liking. Therefore in order to keep up with the needs to today's modern age, it becomes essential for



consultants to review the standards incorporated within FPO. The following can be considered as consultant's suggestions under this section of the report:-

### 7.5.1 New Standards format

After going through various standards of domestic as well as international significance, the consultants concluded that it was not possible to improvise existing standards until and unless the format of these standards was changed. The current and suggested format are reflected below :-

#### OLD FORMAT

Products	Variety	Special Characteristics	General Characteristics

#### NEW FORMAT

- **Product Name :**
- **Description :**
- **Definition, Style, Variety, type of pack, packing media.**
- **Ingredients – Basic Optional**
- **Food additives**
- **Special Characteristics – Minimum fill, drained weight.**
- **Quality Requirement – General, TSS, Acidity, Microbial status, heavy metal, etc.**
- **Labeling requirements**

### 7.5.2 Existing Standards that have been improved / modified.

The following are some of the fruit and vegetable derivative standards that have been improved / modified by the Consultants:-

- Fruit Concentrate
- Dried and Dehydrated Fruits
- Tamarind pulp / Puree and Concentrate
- Canned / Bottle Vegetable Soups
- Dried and Dehydrated Vegetables
- Fruit Juice



- Fruit Pulp / Puree (Categorized as Mango Pulp in Current FPO)
- Fruit Nectars
- Fruit Beverages
  - Fruit Syrup / Sherbet, Fruit Crush, Fruit Squash
  - Fruit Cordial
  - Fruit Drinks / Ready to Serve Beverages
  - Barley Water (Lemon, Orange, Grape Fruit etc.)
  - Ginger Cocktail (Ginger Beer or Ginger ale)
  - Carbonated Fruit Drink or Fruit Beverages
- Vegetable Juices /Pulp/Puree (Categorized as Tomato Juice and Tomato Puree in Current FPO)
- Non-Fruit Beverages (Categorized as Flavored sweetened aerated water in Current FPO)
- Pickled Fruits and Vegetables
- Fruit and Vegetable Chutney
- Fruit Jam and Fruit Cheese
- Citrus Marmalade
- Fruit and Vegetable Cereal Flakes

The details of the above mentioned product categories are reflected in Chapter 6 of this report.

### **7.5.3 New Product Standards**

The following are some of the fruit and vegetable derivative standards that have been suggested to be added to the FPO Order 1955 :-

- Canned Fruit Cocktail
- Canned Tropical Fruit Cocktail
- Fruit Bar / Toffee
- Quick Frozen Fruits (IQF)
- Canned / Bottle Curried / Ready to Eat Vegetables
- Quick Frozen Vegetables (IQF)
- Frozen Curried / Ready-To-Eat Vegetables
- Vegetable Concentrate



- Fruit Based Beverage Mix / Powdered Fruit Based Beverages
- Mixed Fruit and Vegetable Juices
- Soup Powders
- Quick Frozen French Fried Potatoes
- Table Olives
- Aseptically Processed and Packaged Fruits and Vegetables
- Irradiated Processed Fruits and Vegetables
- Retort Pouches Products
- Fruit Shakes
- Fruit Lassi
- Cider
- Wine
- Freeze Dried Fruits and Vegetables
- Miscellaneous Fruit and Vegetable Products

The details of the above mentioned product categories are reflected in Chapter 6 of this report.

#### **7.5.4 Unchanged product standards**

The following are some of the fruit and vegetable derivative standards that have been unchanged by the Consultants: -

- Canned / Bottle Fruits
- Canned / Bottle Vegetables
- Tomato Puree and Paste
- Tomato Ketchup and Tomato Sauce
- Fruit and Vegetable Sauce
- Soya bean Sauce
- Fruit Jellies
- Fruit and Vegetable Preserves (Murabba)
- Candied and Crystallized or Glazed Fruit and Peel
- Brewed Vinegar
- Non-Fruit Vinegar



The details of the above mentioned product categories are reflected in Chapter 6 of this report.

## **7.6 OTHER RECOMMENDATIONS**

**7.6.1 Food Additives** – The current FPO has very few additives mentioned within it. A perspective of additives detailed in other Indian standards as well as Codex standards was taken into account. The consultants have therefore extended the list of additives that can be used in processed fruit and vegetables. Food Additives have been classified, among others, as Acidifying Agents, Antioxidants, Colours, Firming Agents, Thickening Agents, Softening Agent, Flavours, Preservatives, Phosphorus Penta Oxide, Artificial Sweeteners and Polyols, Processing Aids etc. Details of the same can be looked up in Appendix B

**7.6.2 Labeling** – The Consultants found the current FPO labeling requirement to be inadequate. A perspective of domestic as well as Codex labeling standards was also taken into account. The suggested labeling requirements reflect a new format for labeling of pre-packaged fruit and vegetable products. These include nutrition labeling. This subject has been detailed in Chapter 6.

**7.6.3 Packaging** – The Consultants have improved upon packaging specification mentioned within the current FPO. The Consultants have taken into account recent developments for packaging within the processed food segment. Some of these include aseptic packages, retort pouches, laminates etc.. Details on the same are reflected in Chapter 6.

**7.6.4 Microbiological Requirements** – The Consultants have understood the microbiological requirement as mentioned in other domestic as well as Codex standards. The Current FPO has then been suggested to be brought in line with these standards. For the benefit of reference these Microbiological requirements have been grouped as one and can be referred to in Appendix C.



**ANNEXURE – II**

**LIST OF ORGANIZATIONS WHICH CONTACTED ON FPO REVIEW**

1. The Deputy Director (F & VP)  
Southern Region  
Ministry of Food Processing Industries,  
C-1-D, Rajaji Bhawan, Basant Nagar,  
Chennai – 600090
2. The Deputy Director (F & VP)  
Northern Region  
Ministry of Food Processing Industries,  
10/11, Jamnagar House,  
New Delhi.
3. The Deputy Director (F & VP)  
Western Region  
Ministry of Food Processing Industries,  
R.No. 319, Old C.G.O. Building,  
101/ M.K. Marg, Mumbai - 400020
4. The Deputy Director (F & VP)  
Eastern Region  
Ministry of Food Processing Industries,  
Mayukh Bhawan, Top Floor,  
Salt Lake, Kolkatta - 700091
5. Dr. D.S. Chaddha  
Advisor  
Confederation of Indian Industry  
23, Industrial Area, Lodhi Road, New Delhi – 110003
6. Mr. D.V. Malhan  
Executive Secretary  
All India Food Processors Association  
206, Aurobindo Palace, Aurobindo Marg,  
Hauz Khas, New Delhi – 110 016
7. Mr. Sameer Bar Director  
Confederation of Indian Food Trade & Industry  
(Promoted by FICCI)  
Federation House, Tansen Marg, New Delhi



8. Mr. R.K. Bansal (Residence)  
H.No. 15, Vivekanandpuri,  
Near Sarai Rohilla Police Station,  
Delhi – 1100 07
9. Mr. O. P. Gera  
227, Sector C, Jal Vayu Vihar,  
Kammanahalli Main Road,  
Bangalore – 560043
10. Dr.Subodh Jindal  
Excelsior Food & Chemical Industries,  
A-1 Lawrance Road, Industrial Area,  
New Delhi-110035
11. Mr N.P. Bhargava,  
Midland Fruits & Veg. Products Ltd.  
15, Ishwar Nagar, Jumbo House, Okhla Indus. Estate,  
Okhla, New Delhi-110020
12. Mr. S.K. Premi  
General Manager  
Allahabad Canning Company,  
P.O. Bamrauli, Allahabad – 211012
13. Dr. S.K. Saxena  
Laboratory Expert  
B2/230, Ekta Garden Apartments,  
9, Patparhganj, Near Mother Dairy,  
Delhi – 110092
14. M/s Harnarain Gokal Chand  
B-3/1, Lawrance Road,  
Industrial Area, New Delhi – 110035
15. Mida & Co. Pvt. Ltd.  
Orbit House, 1 Garstion Place, 3<sup>rd</sup> Floor  
Kolkata – 700001.
16. Kejriwal Enterprises  
W-42, Greater Kailash, Part – II,  
New Delhi – 110048





17. M/s Excellsior Food Chemical Industries  
A – 1&2, Lawrance Road  
Industrial Area,  
New Delhi – 110035.
18. Quatb Minar Achar Factory  
281-A, Word No. 2. Mehrauli  
New Delhi – 110030.  
Products; Pickles
19. M/s Asian Food Products  
11/16 A-1-A  
Teliwara, Shahdara  
New Delhi.
20. M/s Deepak Enterprises  
364/A, Raviwar Peth bhagwan Adinath  
Chowk Pune – 411002.
21. M/s India Canning Industries  
18-1044 High Road, Chittoor – 517001, (Andhra Pradesh)
22. M/s B.M. Manak Fruit Products  
33 / 38, Libaspur, Samaypur,  
P.O. Badli, Delhi – 1100042
23. M/s Panna Lal  
Tawinder Kumar  
B-46, Lawrance Road  
Industrial Area,  
New Delhi – 110035.
24. Pardes Dehydration Company  
14/15, Ramkrishna Nagar,  
Opp. Virani High School,  
Purvalaya Building,  
Rajkot – 360002 (Gujarat)

Contact: Mr. Hitendra Parekh, General Manager.  
Products: Dehydrated Onion Products, Dehydrated Garlic Products, Other  
Dehydrated Vegetables.



25. M/s Parle (Export) Ltd.  
Western Express Highway, Andheri (E),  
Mumbai – 400099 (Maharashtra)  
Products: Tropical Fruits and Products.
26. M/s Pepsi Foods Ltd.  
3 B, DLF Centre Corporate Park,  
S-Block, Qutab Enclave – III,  
Gurgaon – 122002 (Haryana)  
Products: Non Alcoholic Beverages.
27. M/s Coca – Cola India Pvt. Ltd.  
Enkay Towers, Udyog Vihar - 5  
Gurgaon – 122106
28. Attention: Dr. V. Prakash,  
Director,  
Central Food Technological Research Institute,  
Cheluvamba Mansion,  
CFTRI CAMPUS, Mysore-570020.
29. Mr. K.K. Seth  
General Manager  
Oceanic Foods Pvt. Ltd.  
Opp. Hindustan Lever Ltd.,  
Pandit Nehru Marg,  
Jamnagar – 361002
30. Mr. Gokul Patnaik  
Chairman  
M/s. Global Agri System Pvt. Ltd  
K-13A, Houz-Khas Enclave,  
New Delhi-110016
31. Dr. S.A. Patil  
Director  
Indian Agricultural Research Institute  
New Delhi – 110012
32. M/s Parle Products Pvt. Ltd.  
106 & 206, Pankaj Plaza,  
Local Shopping Centre,



Near Post Office, Kalkaji – 110019

33. Mr. P.T. Raju  
Tropical Fruits International Ltd.  
214, Embassy Centre,  
11, Crescent Road, Kumara Park Estate,  
Bangalore – 560001
34. Mr. Mahesh S. Parikh  
298/1, 6<sup>th</sup> Cross, B Kaggadaspura,  
C.V. Raman Nagar,  
Bangalore – 5600093
35. Dr. Pradeep Vyas, IAS  
Maharashtra Agro Industries  
Development Corporation Limited,  
3<sup>rd</sup> Floor, Rajan House, Prabhdevi, Mumbai – 400032
36. Mr. S.N. Mukherjee  
Soma Food Products Pvt. Ltd.  
10/1, Deshbandhu Road, (East)  
Baranagar, Kolkata – 700035
37. Mr. Piruz Khambatta  
Chapter Chairman – Ahmedabad (AIFPA)  
Chairman & Managing Director  
Rasna Pvt. Ltd., Rasna Centre  
Opp. Sears Towers Tekra,  
Ahmedabad – 380006
38. Mr. Gopal Sharma  
Chapter – Chairman – Bhopal (AIFPA)  
Executive Vice President – Operations  
Godrej Industries Limited, Processed Food Division,  
Plot No. 6, Industrial Area No. 1,  
Mandideep Dist, Raisen, M.P. 462 046
39. Sh. Sitaram Goenka  
Managing Director  
Food Fats & Fertilizers Limited,  
7<sup>th</sup> Floor, Fountain Plaza,  
P.B. No. 756, Pantheon Road, Chennai – 600 008



40. Mr. K. Balakrishna Reddy  
Chapter – Chairman – Chittoor (AIFPA)  
Managing Director  
Suvora Processed Foods Pvt. Ltd.  
15 – 2294, Balaji Nagar, C. B. Road,  
Chittoor (5170002 (A.P.))
41. Mr. Tom Thomas  
Chapter Chairman – Cochin (AIFPA)  
Managing Executive  
Malabar Fruit Products Company,  
36/896, M.G. Road, Ernakulam,  
Cochin – 662011 (Kerala)
42. Mr. S. Bhattacharjee  
Chapter Chairman – Guwahati (AIFPA)  
Executive Director  
NERAMAC,  
Rajbari Path, G. S. Road, Dispur,  
Guwahati – 781005
43. Mr. G. Venkatasamy  
Chapter Chairman – Krishnagiri (AIFPA)  
Payur Village & Post  
Kaveripattinam – 635112, Krishnagiri,  
Dist. Tamil Nadu.
44. Mr. George Isaac  
Chapter Chairman – Kottayam (AIFPA)  
The Malabar Coast Products  
Palathinkal House,  
Post Box No. 663, T.B. Road,  
Kottayam – 680 001
45. Mr. Ashok Bhiwapurkar  
Chapter Chairman – Nagpur (AIFPA)  
Managing Director  
B Kar Products  
Pratibha Sankul, North Ambazari Road,  
Near Alankar Cinema, Bhagwahar Layout,  
Dharampeth, Nagpur – 440 010



46. Mr. Pradeep Chordia  
Chapter Chairman – Pune (AIFPA)  
Managing Director  
Chordia Food Products Ltd.  
55, Hadapsar Industrial Estate,  
Opp. Solapur Road,  
Pune – 411013
47. M/s Jumbo International  
A- Blok, 2 Jambo House,  
Jambu Industrial Area  
Okhla New Delhi.
48. M/s fruit & vegetable Project  
(Of NDDB),  
Mangolpuri Industrial Area Phase II,  
New Delhi- 110083
49. M/s Kuldip Singh & Sons  
B- 37, Neew Moti Nagar  
New Delhi – 110016
50. M/s Pachranga International  
Behind Raj Woolen  
Panipat (Haryana)
51. Dr. K.L.Gaba  
Dr. Gaba Food Consultancy Services  
34, New Deluxe Apts, Sector- 9,  
Rohini,  
New Delhi – 110085
52. Mr. Anil Srivastava  
Chief Executive Officer  
Safal Market Unit of Mother Dairy Food  
Post Box-6714 White Field  
Hoskey Highway Bangalore-560067
53. Mr. C.K. Basu  
1345, Sector –A- Pocket – B,  
Vasant Kunj,  
New Delhi – 110070



54. M/s G.D. Food India Pvt. Ltd.  
Govardhan Tower,  
5A/34 Tilak Nagar  
New Delhi-110018
55. M/s Classic Food  
A-4, Upside  
Industrial Area, Sikandra Site-B,  
Agra- 2820007 (U.P)
56. M/s Priya Food Products,  
551/CH/76, New Sardari Khera,  
Pooram Nagar Alam Bagh,  
Lucknow (U.P)
57. M/s Everest Food & Beverages,  
Behind Jain Mandir,  
Sultanwind Road  
Amritsar-143006. (Punjab)
58. M/s Top Foods (India)  
277, Dilbagh Nagar,  
Jalandhar City (Punjab)
59. Mr. Avinash Tripathi  
Meghdoot, Gramodyog  
Sewa Sansthan 303, Chandralok,  
Lucknow.