

<b>Food Safety and Standards Regulations, 2010</b>		
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# **Food Safety and Standards Regulations, 2010**

In exercise of the powers under section 92 of the Food Safety and Standards Act, 2006 (34 of 2006), the Food Safety and Standards Authority hereby makes the following Regulations

## **CHAPTER 1 – GENERAL**

### **Part 1.1:** Title and commencement

**Regulation 1.1.1:** These regulations may be called the Food Safety and Standards Regulations, 2010.

**Regulation 1.1.2:** They shall extend to the whole of India.

### **Part 1.2:** Definitions

**Regulation 1.2.1:** In these regulations unless the context otherwise requires:

1. **“Act”** means the Food Safety and Standards Act, 2006 (Act 34 of 2006);
2. **“Best before”** means the date which signifies the end of the period under any stated storage conditions during which the product shall remain fully marketable and shall retain any specific qualities for which tacit or express claims have been made and beyond that date the food may still be perfectly satisfactory;
3. **“Date of manufacture”** means the date on which the food becomes the product as described;



- 4. "Date of packaging"** means the date on which the food is placed in the immediate container in which it will be ultimately sold;
- 5. "District"** means a local area as defined by the Authority for the purpose of the Food safety and Standards Act, 2006. The district can be categorized on the basis of:
- Concentration of specific category of food businesses which may need special attention
  - Specific risk assessment
  - Any other specific regulatory requirements
- 6. "Health claims"** means any representation that states, suggests or implies that a relationship exists between a food or a constituent of that food and health and include nutrition claims which describe the physiological role of the nutrient in growth, development and normal functions of the body, other functional claims concerning specific beneficial effect of the consumption of food or its constituents, in the context of the total diet, on normal functions or biological activities of the body and such claims relate to a positive contribution to health or to the improvement of function or to modifying or preserving health, or disease risk reduction claim relating to the consumption of a food or food constituents, in the context of the total diet, to the reduced risk of developing a disease or health related condition;
- 7. "Infant"** means a child not more than twelve months of age;
- 8. "Licensing Authority"** means the Designated Officer appointed

under section 36 (i) of the Act by the food safety commissioner of the state for the local area and includes an officer to whom powers of issue of a licence has been delegated by the Designated Officer;

**9. "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 food package. For the purpose of declaration of month and year of manufacture, the provisions under rule 6(B) of Standards of Weights and Measures (Packaged Commodities) Rules, 1977 shall apply.

**10. "Lot number" or "code number" or "batch number"** means the number either in numerals or alphabets or in combination thereof, representing the lot number or code number or batch number, being preceded by the words "Lot No" or "Lot" or "code number" or "Code" or Batch No" or "Batch" or any distinguishing prefix by which the food can be traced in manufacture and identified in distribution.

**11. "Multipiece package"** means a package containing two or more individually packaged or labelled pieces of the same commodity of identical quantity, intended for retail either in individual pieces or packages as a whole.

**12. "Nutrition claim"** means any representation which states, suggests or implies that a food has particular nutritional properties which are not limited to the energy value but include the protein, fat and carbohydrates, vitamins and minerals;

**13. "Non- Vegetarian Food"** means an article of food which contains whole or part of any animal including birds, fresh water or marine animals or eggs or products of any animal origin, but not including milk or milk products, as an ingredient;

**14. "Nutritional food"** means the food claimed to be enriched with nutrients, such as, minerals, proteins or vitamins

**15. "Prepackaged" or "Pre-packed food",** means food, which is placed in a package of any nature, in such a manner that the contents cannot be changed without tampering it and which is ready for sale to the consumer.

Note: The expression "package" wherever it occurs in these Regulations, shall be construed as package containing prepacked food articles.

**16. "Principal Display Panel"** means that part of the container/package which is intended or likely to be displayed or presented or shown or examined by the customer under normal and customary conditions of display, sale or purchase of the commodity contained therein.

**17. "Risk reduction"** in the context of health claims means significantly reducing a major risk factor for a disease or health-related condition;'

**18. "Use – by date" or "Recommended last consumption date" or "Expiry date"** means the date which signifies the end of the

estimated period under any stated storage conditions, after which product probably will not have the quality attributes normally expected by the consumers and the food shall not be marketable;

**19. "Vegetarian Food"** means any article of Food other than Non-Vegetarian Food as defined above of this article.

**20. "Wholesale package"** means a package containing -

- a. a number of retail packages, where such first mentioned package is intended for sale, distribution or delivery to an intermediary and is not intended for sale direct to a single consumer; or
- b. a commodity of food sold to an intermediary in bulk to enable such intermediary to sell, distribute or deliver such commodity of food to the consumer in smaller quantities.

The expressions used in these Regulations but have not been defined herein shall have the meaning ascribed to them in the Act or as provided in the regulations, chapters and Appendices.

## **CHAPTER 2 – Food Authority and Transaction of Business**

### **Part 2.1:** Food Authority

**Regulation 2.1.1:** Salaries and terms and conditions of service of employees of Food Authority of India

**Regulation 2.1.2:** Procedure for transaction of business

### **Part 2.2:** Central Advisory Committee

**Regulation 2.2.1:** Procedure for transaction of business

### **Part 2.3:** Scientific Committee and Panels

**Regulation 2.3.1:** Procedure for establishment and operations of the Scientific Committee

**Regulation 2.3.2:** Procedure for establishment and operations of the Scientific Panels

### **Part 2.4: Jurisdiction of Designated officer**

**Regulation 2.4.1** The commissioner of Food Safety shall, by order, appoint the Designated officer, who shall not be below the rank of a Sub-Divisional Officer, to be in-charge of food safety administration for each district

## **CHAPTER 3 – Licensing and Registration of Food Businesses**

### **Part 3.1 Definitions**

In these Regulations, unless the context otherwise requires,-

**Regulation 3.1.1 “Central Licensing Authority”** means Designated Officer appointed by the Chief Executive Officer of the Food Authority of India in his capacity of Food Safety Commissioner.

**Regulation 3.1.2 “Petty Food Manufacturer”** means any food manufacturer, who

- a. manufactures or sells any article of food himself or a petty retailer, hawker, itinerant vendor or temporary stall holder; or
- b. such other food businesses including small scale or cottage or such other industries relating to food business or tiny food businesses with an annual turnover not exceeding Rs 12 lakhs and/or whose
  - i. production capacity of food (other than milk and milk products and meat and meat products) does not exceed 100 kg/ltr per day or
  - ii. production or procurement or collection of milk is up to 500 litres of milk per day or
  - iii. slaughtering capacity is 2 large animals or 10 small animals or 50 poultry birds per day or less

**Regulation 3.1.4 “Registering Authority”** means Food Safety Officer or any official in Panchayat, Municipal Corporation or any other local body in an area, notified as such by the State Food Safety Commissioner for the purpose of registration as specified in these Regulations.

**Regulation 3.1.5 “State Licensing Authority”** means Designated Officers appointed under Section 36(1) of the Act by the Food Safety Commissioner of a State or UT.

1. Words and expressions used herein and not defined, but defined under the Act or in any other regulations under the Act, shall have the meaning respectively assigned to them therein.

### **Part 3.2 Registration and License for Food Business**

All Food Business Operators in the country will be registered or licensed in accordance with the procedures laid down hereinafter without prejudice to the availability of safe and wholesome food for human consumption.

#### **Regulation 3.2.1 Registration of petty food business**

- (1). Every petty food manufacturer shall register themselves with the Registering Authority by submitting an application for registration in Form A under Schedule 2 of these Regulations along with a fee as provided in Schedule 3.
- (2). The Food Business Operator shall follow the basic hygiene and safety requirements provided in Schedule 4 (Part I) of these Regulations and provide a self attested declaration of adherence to these requirements with the application in the format provided in Annexure-1 under Schedule 2
- (3). The Registering Authority shall consider the application and may either grant registration or reject it with reasons to be recorded in

writing or issue notice for inspection, within 7 days of receipt of an application for registration

- (4). In the event of an inspection being ordered, the registration shall be granted by the Registering Authority after being satisfied with the safety, hygiene and sanitary conditions of the premises within a period of 30 days.
- (5). If registration is not granted, or denied, or inspection not ordered within 7 days as provided in above sub regulation (3) or no decision is communicated within 30 days as provided in above sub regulation (4), the Food Business Operator may start its business, provided that it will be incumbent on the Food Business operator to comply with any improvement suggested by the Registering Authority at any later time.

Provided that registration shall not be refused without giving the applicant an opportunity of being heard and for reasons to be recorded in writing.

- (6). The Registering Authority shall issue a registration certificate and a photo identity card, which shall be displayed at a prominent place at all times within the premises or vehicle or cart or any other place where the person carries on the Petty Food Business.
- (7). The Registering Authority or any officer or agency specifically authorized for this purpose shall carry out food safety inspection of the registered establishments at least once in a year.



### **Regulation 3.2.2 License for food business**

- (1). Subject to **Regulation 3.2.1**, no person shall commence any food business unless it possesses a valid license under these Regulations.

Provided that any person or Food Business Operator carrying on food business on the date of notification of these Regulations, under a license, registration or permission, as the case may be, under the Acts or Orders mentioned in the Second Schedule of the Act shall get their existing license converted into the license/registration under these regulations following an application made by the Food Business Operator to the Licensing/Registering Authority within one year of notification of these Regulations. No license fee will have to be paid for the remaining period of the validity of the earlier license or registration granted under any of the said Acts or Orders Non-compliance with this provision by a Food Business Operator will attract penalty under section 55 of the Act.

Provided further that any Food Business Operator holding Registration/License under any other Act/Order as specified under schedule 2 of the FSS Act, 2006 with no specific validity or expiry date, and other wise entitled to obtain a license under these regulations, shall have to apply and obtain a Registration/License under these Regulations within one year from the date of notification by paying the applicable fees.

- (2). Notwithstanding the provisions contained in Regulation 3.2.2(1) above or in any of the registration or license certificates issued under existing Acts or Orders mentioned in the second schedule of

the Act, the Licensing Authority, if it has reason to believe that the Food Business Operator has failed to comply with all or some of the conditions of the existing registration or license or the safety requirements given in **Schedule 4**, may give appropriate direction to the Food Business Operator to comply with.

- (3). License for commencing or carrying on food business, which falls under **Schedule 1**, shall be granted by the Central Licensing Authority. For importing any type of food items including food ingredients and additives a food business Operator shall have to obtain a license from the Central Licensing Authority, Provided that Food Authority may through notification make such changes or modify the list given in the **Schedule I as considered necessary**.
- (4). License for commencing or carrying on food business, which are not covered under **Schedule 1**, shall be granted by the concerned State Licensing Authority.
- (5). The Food Business Operator shall ensure that all conditions of license as provided in **Annexure 2 of Form B in Schedule 2** and safety, sanitary and hygienic requirements provided in the **Schedule 4** are complied with at all times .

Provided that no person shall manufacture, import, sell, stock, exhibit for distribution or sale any article of food which has been subjected to the treatment of irradiation, except under a license obtained from Department of Atomic Energy under the Atomic Energy (Control of Irradiation of Food) Regulations, 1996.

Provided further that the Licensing Authority shall ensure periodical food safety audit and inspection of the licensed establishments through its own or authorised agencies.

### **Regulation 3.2.3 Application for license to the Licensing Authority**

An application for the grant of a license shall be made in **Form B of Schedule 2** to the concerned Licensing Authority as specified in **Regulation 3.2.2 (3) and 3.2.2 (4)** and it will be accompanied by a self-attested declaration in the format provided in the **Annexure-1** and copies of documents mentioned in the **Annexure 2 of Schedule-2** along with the applicable fees prescribed in **Schedule 3**.

### **Regulation 3.2.4 Processing of Application for license**

- (1). A license shall, subject to the provisions of these Regulations, be issued by the concerned Licensing Authority within a period of 60 days from the date of receipt of the completed application along with all required documents and fees.
- (2). On the receipt of the completed application along with all required documents and fees, the concerned Licensing Authority shall issue a unique application number to each applicant that will be referred to in all future correspondence between the Licensing Authority and the applicant.
- (3). If, upon scrutiny of the application within 15 days from the date of receipt of the application, the concerned Licensing Authority requires any additional information with respect to an application or if the application is incomplete, the Licensing Authority may inform

- the applicant in writing, to furnish such additional information or complete the application, as the case may be, within 30 days from such notice.
- (4). On receiving the complete information and documents the Licensing Authority shall direct the Food Safety Officer or any other person specially designated for such functions to inspect the premises in a manner and according to Regulations as laid down by the Food Authority. The Licensing Authority may issue a notice to the applicant, if it deems fit, guiding food business Operator on necessary steps to be taken or changes or alteration to be made in the premises in order to ensure general sanitary and hygienic conditions as specified in **Schedule 4**.
  - (5). Within a period of 30 days from receipt of an inspection report the concerned Licensing Authority shall consider the application and may either grant or reject the license.  
Provided that no applicant shall be refused a license without being given an opportunity of being heard and for reasons to be recorded in writing.
  - (6). The Licensing Authority shall issue a License in **Format C** under **Schedule 2** of these Regulations, a true copy of which shall be displayed at a prominent place at all times within the premises where the Food Business Operator carries on the food business.

### **Regulation 3.2.5 Procedure for License under certain local areas**

- (1). A single license may be issued by the licensing authority for one or more articles of food and also for different establishments or premises in the same local area including collection and chilling units run by milk cooperatives or its members.
- (2). The Central Licensing Authority may after satisfying itself about the adequacy of the mechanism to ensure food safety in a Government organization like Railways, Defense etc., with a large number of food establishments, authorise an officer of that organization to function as a Designated officer under sec. 36(3) of the Act who will be responsible for the safety of the food served by those establishments and to ensure that all other conditions laid down for running food business under the Act and these Regulations are complied with. Provided that the Food Authority may carry out food safety audit of these establishments once in a year through its own or accredited agencies.

### **Regulation 3.2.6 Commencement of Business**

An applicant may commence his food business and the concerned licensing Authority shall not deny the applicant to commence such business if, from the date of making the completed application, a license is not issued within 60 days or the applicant has not received any intimation of inadequacy under **Regulation 3.2.4(3)** or inspection report indicating defects from the concerned licensing authority under **Regulation 3.2.4(4)**.

### **Regulation 3.2.7 Validity and Renewal of Registration and License**

- (1). A Registration or license granted under these Regulations shall be valid and subsisting, unless otherwise specified,

- i. for a period of 1 to 5 years as desired by the Food Business Operator, from the date of issue of registration or license subject to remittance of fee applicable for the period and compliance with all conditions of license.
- (2) Any application for the renewal of a registration or license granted under these Regulations shall be made in **Form A or B of Schedule 2**, as the case may be, not later than 30 days prior to the expiry date indicated in the license.
- (3) The Registration or License shall continue to be in force till such time that the orders are passed on the renewal application which in no case shall be beyond 30 days from the date of expiry of registration or license.
- (4) Any renewal application filed beyond the period mentioned under **Regulation 3.2.7 (2)** above but before the expiry date, shall be accompanied by a late fee of Rs 100 per day of delay
- (5) Any Registration or license not applied for renewal within the period mentioned in **Regulation 3.2.7 (2) or 3.2.7 (4)** above shall expire and the Food Business Operator shall stop all business activity at the premises. The Food Business Operator will have to apply for fresh Registration or license as provided in **Regulation 3.2.1 and 3.2.3** as the case may be, if it wants to continue the business.
- (6) Food Business Operator having valid certificate of a accredited food safety auditor or from agency accredited by Food Authority or any other organisation authorised by food Authority for this purpose

will not be normally required to be inspected before renewal of license .

Provided that Designated Officer may order an inspection before renewal if considered necessary for reasons recorded in writing.

**Regulation 3.2.8 Suspension or cancellation of Registration Certificate or license**

- (1). The Registering or Licensing Authority in accordance with the provisions of section 32 of the Act may, after giving the concerned Food Business Operator a reasonable opportunity of being heard, suspend any registration or license in respect of all or any activities for which the registration/license has been granted under these Regulations after recording a brief statement of the reasons for such suspension, if there is ground to believe that the Food Business Operator has failed to comply with the conditions and the period mentioned in any Improvement Notice served under Section 32 of the Act. A copy of such statement shall be furnished to the concerned Food Business Operator whose Registration or license has been suspended.
- (2). The registering or licensing authority, as the case may be, shall direct an inspection of the Food Business Operator's premise(s) within a reasonable period which shall not be less than 14 days from the date of order of suspension.
- (3). In the event that the Registering or Licensing authority is of the opinion, on a review of the inspection report, that the Food Business Operator has still failed to rectify the defects or omissions or comply with the conditions of the improvement notice causing the suspension,

such authority may cancel the license/registration of the Food Business Operator after giving him an opportunity to show cause as provided under Section 32 (3) of the Act.

- (4). Notwithstanding anything contained in these Regulations, the Registering or Licensing Authority may also suspend or cancel any registration or license forthwith in the interest of public health for reasons to be recorded in writing.
- (5). A suspension or cancellation of registration or license under these Regulations shall not entitle the Food Business Operator for any compensation or refund of fee(s) paid in respect of the registration certificate or license or renewal thereof.
- (6). The concerned Food Business Operator may make fresh application for inspection in case of suspension and fresh application for Registration or license in case of cancellation to the concerned authority after taking necessary precautions and making necessary changes or alterations after a minimum period of 3 months from the date of cancellation under **Regulation 3.2.8 (3)** above.

**Regulation 3.2.9 Modifications, Expansion or Changes in premise after grant of license or registration**

- (1). Food Business Operators shall ensure that the Registering or Licensing Authority always has up-to-date information on their food business establishments and shall inform the relevant Authority of any modifications or additions or changes in product category, layout, expansion, closure, or any other material information based



on which the license was granted and such information shall be conveyed before the changes occur.

Provided that any change that alters the information contained in the license certificate shall require an approval or endorsement in license prior to start of business with such changes. The Food Business Operator shall submit the original license to the Licensing Authority along with a fee equivalent to one year license fee for effecting necessary changes. The Authority may approve and issue an amended license incorporating such changes in activities within 30 days from the date of receipt of such information. While approving the aforementioned changes the concerned registering or licensing Authority shall take into account the feasibility of carrying on the business and the legal and other relevant aspects of the desired modifications or additions or changes in activities and, if required, may order an inspection of the premises before granting the approval.

**Regulation 3.2.10 Mode of payment:**

All fees and charges payable under these regulations shall be paid vide pay order or demand draft or any online mode of payment as may be prescribed in this regard, by the concerned Food Safety Commissioner,

**Regulation 3.2.11 Transfer of registration certificate or License in case of death**

- (1). In the event of death of the holder of a Registration certificate or license, such certificate or license shall subsist for the benefit of the

- legal representative or any family member the deceased or until the expiry of:-
- (a). the period of 90 days from the date of death of the holder of a Registration certificate or license; or
  - (b). such longer period as the Designated Officer may allow, with reasons to be recorded in writing.
- (2). The legal representative or family member of the deceased holder of the registration certificate or license shall apply to the concerned Authority for transfer of such certificate or license in his favour.
- (3). The registering or licensing Authority, as the case may be, may, after making such enquiry as it may deem fit, either approve the transfer of the Registration certificate or license if satisfied that the applicant is the legal representative, or refuse the request. Provided that the registering or licensing authority shall not refuse the request without giving the applicant an opportunity of being heard and for reasons to be recorded in writing.
- (4). Upon filing of application for transfer and pending the decision of the authority the registration or license shall continue to be in force.

### **Regulation 3.2.12 Appeal**

- (1). A Food Business Operator aggrieved by an order of the Registering Authority or Licensing Authority, as the case may be, under these Regulations may prefer an appeal to the concerned Designated officer or the Food Safety Commissioner, as per provisions laid down under Section 31(8) and 32 (4) - (5) of the Act.

### **Regulation 3.2.13 Return**

(1). Every licensee shall on or before 31<sup>st</sup> May of each year, submit a return electronically or in physical form as may be prescribed by the concerned Food Safety Commissioner, in '**Form D-1**' provided in **Schedule 2** of these Regulations to the Licensing Authority in respect of each class of food products handled by him during the previous financial year.

Provided however that Licensees engaged in manufacturing of milk and/or milk products shall file such return in **form D-2, Part-II** as provided in **Schedule-2** of these regulations.

Provided further that every licensee engaged in manufacturing milk and/or milk products shall also file monthly return by 10th of every month for the previous month in the **form D-2, Part I** as provided in **Schedule-2** of these regulations.

(2). A separate return shall be filed for every license issued under the Regulations, irrespective of whether the same Food Business Operator holds more than one license.

(3). Any delay in filing return beyond 31<sup>st</sup> May of each year shall attract a penalty of Rs 100 per day of delay.

### **Regulation 3.2.14 Food Business Operator to be bound by directions or order**

Every Food Business Operator to whom any direction or order is issued in pursuance of any provisions of this order shall be bound to comply with

such directions or order and any failure on the part of the Food Business Operator to comply with such direction or order shall be deemed to be contravention of the provisions of these Regulations and will attract legal action under the provisions of the Act.

**Regulation 3.2.15 Power of Authority to constitute advisory committees**

Notwithstanding anything contained in any of the regulations under the Act the Food Authority shall have power to constitute advisory committees to assist, aid or advise on any matter concerning food safety or product specific issues.

## **Schedule 1**

### **List of food business falls under the purview of Central Licensing Authority**

**[See Regulation 3.2.2 (3)]**

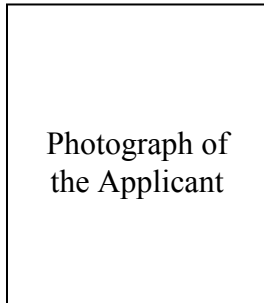
- I. Dairy units including milk chilling units equipped to handle or process more than 50 thousand litres of liquid milk/day or 2500 MT of milk solid per annum.
- II. Vegetable oil processing units and units producing vegetable oil by the process of solvent extraction and refineries including oil expeller unit having installed capacity more than 2 MT per day.
- III. All slaughter houses equipped to slaughter more than 50 large animals or 150 or more small animals including sheep and goats or 1000 or more poultry birds per day
- IV. Meat processing units equipped to handle or process more than 500 kg of meat per day or 150 MT per annum
- V. All food processing units other than mentioned under (i) to (iv) including relabellers and repackers having installed capacity more than 2 MT/day except grains, cereals and pulses milling units.
- VI. 100 % Export Oriented Units
- VII. All Importers importing food items for commercial use.
- VIII. All Food Business Operators manufacturing any article of Food which does not fall under any of the food categories prescribed under these regulations or deviates in any way from the prescribed specification for additives therein.
- IX. Retail chains operating in three or more states
- X. Food catering services in establishments and units under Central government Agencies like Railways, Air and airport, Seaport, Defence etc.

**Schedule 2**

**Form 'A'**

**Application for Registration / Renewal of Registration under Food  
Safety and Standards Act, 2006**

**[See Regulation 3.2.1 and Regulation 3.2.7 ]**



**Kind of business:**

- Itinerant / Mobile food vendor
- Hawker
- Home based canteens/dabba wallas
- Petty Retailer of snacks/tea shops
- Permanent/Temporary Stall holder
- Manufacturer/Processor
- Re Packer
- Religious gatherings, food stalls in fairs etc
- Milk producers (who are not member of dairy co operative society)/ milk vendor
- Dhabha
- Fish/meat/poultry shop/seller
- Other(s), please specify:\_\_\_\_\_

(a).Name of the Applicant/Company: -

\_\_\_\_\_

(b).Designation or Capacity:

- Individual
- Partner

- Proprietor
- Secretary of co-operative society.
- Others (Please specify)

(c).Proof of Identity of applicant:

\_\_\_\_\_

*[Note: Please submit a copy of photo ID like Driving License, Passport, Ration Card or Election ID card]*

(d).Correspondence address:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Tel No:\_\_\_\_\_ Mobile No.:\_\_\_\_\_

Fax No.:\_\_\_\_\_ Email:\_\_\_\_\_

*[Note: In case the number(s) are a PP or common number(s), please specify the name of the contact person as well]*

(e).Area or Location where food business is to be conducted/Address of the premises:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(f).Description of the food items to be Manufactured or sold:

S.No.	Name of Food category	Description


Please attach separate sheet if required

(g). Total Annual turnover from the food business, if existing, alongwith any supporting document(s) showing proof of income (*\*In case of renewal*):

\_\_\_\_\_

\_\_\_\_\_

(h) In case of new business - intended date of start: \_\_\_\_\_

(i) In case of seasonal business, state the opening and closing period of the year: \_\_\_\_\_

(j) Source of water supply:

Public supply                  Private supply                  Any other source

(k) Whether any **electric** power is used in manufacture of the food items:

Yes

No



If yes, please state the exact HP used or sanctioned Electricity load:

\_\_\_\_\_

(I) I/We have forwarded a sum of Rs.....towards registration fees according to the provision of the Food Safety and Standards (Licensing and Registration) Regulations, 2010 vide:

- Demand Draft no. (payable to -----)
- Cash

(Signature of the Applicant)

**Form 'B'**

**Application for License / Renewal of license under Food Safety  
and Standards Act, 2006**

**[See Regulation 3.2.2, Regulation 3.2.3 & Regulation 3.2.7]**

**Kind of business (Please tick more than one, if applicable):**

- Manufacturing/Processing including sorting, grading etc.
- Milk Collection/chilling
- Slaughter House
- Solvent extracting unit
- Solvent extracting plant equipped with pre cleaning of oil seeds or pre expelling of oil.
- Solvent extracting and oil refining plant.
- Packaging
- Relabeling (manufactured by third party under own packing and labeling)
- Importing
- Storage/Warehouse/Cold Storage
- Retail Trade
- Wholesale Trade
- Distributor/Supplier
- Transporter of food
- Catering
- Dhabha or any other food vending establishment
- Club /canteen
- Hotel
- Restaurant

Other(s), please specify: \_\_\_\_\_

1. Name of the Company:

\_\_\_\_\_

2. Registered Office Address:

\_\_\_\_\_

3. Address of Premise for which license is being applied

\_\_\_\_\_

\_\_\_\_\_

4. Name and/or designation qualification and address of technically qualified person in charge of operations as required under Regulation .....

Name:

Qualification:

Address:

Telephone Number(s):

Mobile no:

Email:

Photo Identity card no and expiry date

5. Name and/or designation, address and contact details of person responsible for complying with conditions of license (if different from 4 Above):

Name:

Address:

Telephone Number(s):

Mobile no

Email:

Photo Identity card no and expiry date

6. Correspondence address (if different from 3 above)

---

---

---

7. TelNo.: \_\_\_\_\_ Mobile No.: \_\_\_\_\_

Fax No: \_\_\_\_\_ Email: \_\_\_\_\_

8. Food items proposed to be manufactured:

S.No.	Name of Food Item	Description/ Installed production capacity

If required attach separate sheet

If already having valid license- mention annual quantity of each food category manufactured during last three years

9. Installed Capacity food product wise (per day) \_\_\_\_\_

10. For Dairy units

(i) Location and installed capacity of Milk Chilling Centers (MCC) / Bulk Milk Cooling Centers (BMCs) owned or managed by the applicant.

S.No.	Name and address of MCC/BMC	Installed Capacity
-------	-----------------------------	--------------------


If required attach separate sheet

(ii) Average Quantity of milk per day to be used/handled in

a. in lean season \_\_\_\_\_

b. in flush season \_\_\_\_\_

11. For Solvent -Extracted Oil, De oiled meal and Edible Flour:

(i) Details of proposed business

Name of Oil bearing material	From seed or nut or cake	Solvent -Extracted Oil, De oiled meal and Edible Flour						Vegetable Oil
		Crude	Neutralized	Neutralized & Bleached	Refined	De oiled meal	Edible Flour	

If already having valid license- mention annual quantity of each product manufactured during last three years

ii) Name and address of factory or factories used by the miller or solvent extractor for processing oil bearing material produced or procured by him or for refining solvent extracted Oil produced by him.

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12. Sanctioned electricity load or HP to be used -

---

13. Whether unit is equipped with an analytical laboratory

---

If yes the details thereof:-

---

14. In case of renewal or transfer of license granted under other laws as per proviso to Regulation 5(1) - period for which license required ( 1 to 5 years) \_\_\_\_\_

15. I/We have forwarded a sum of Rs. \_\_\_\_\_ towards License fees according to the provision of the Food Safety and Standards (Licensing and Registration) Regulations, 2010 vide:  
Demand Draft no (payable to .....)

(Signature of the Applicant/authorized signatory)

**Annexure I.**

**Declaration**

I, Mr./Ms./Mrs. \_\_\_\_\_ S/o / D/o Mr.  
\_\_\_\_\_,R/o \_\_\_\_\_ do hereby  
solemnly affirm and declare that all information and particulars furnished  
here by me are true and correct to the best of my knowledge. I further  
declare that the food business conducted or proposed to be conducted  
by/through me conforms/shall conform to the Food Safety and Standards  
Act, Regulations/ Bye-laws enacted thereunder, and specifically to the  
Guidelines on Hygiene and Sanitary Practices provided under Schedule 4  
of the Registration and Licensing Regulations published by the Food  
Safety and Standards Authority of India or any person authorized on its  
behalf from time to time.

Dated:

(Signature)

## **Annexure-2**

### **Documents to be enclosed with new application for license to State/Central Licensing Authority**

1. Form-B duly completed and signed (in duplicate) by the proprietor/partner or the authorised signatory
2. Blueprint/layout plan of the processing unit showing the dimensions in metres/square metres and operation-wise area allocation.
3. List of Directors with full address and contact details
4. Name and List of Equipments and Machinery along with the number, installed capacity and horse power used.
5. Photo I.D and address proof issued by Government authority of Proprietor/Partner/Director(s)/Authorised Signatory.
6. List of food category desired to be manufactured. ( In case of manufacturers)
7. Authority letter with name and address of responsible person nominated by the manufacturer along with alternative responsible person indicating the powers vested with them viz assisting the officers in inspections, collection of samples, packing & dispatch.
8. Analysis report (Chemical & Bacteriological) including pesticide residue of water to be used as ingredient in food from a recognised/ public health laboratory to confirm the potability indicating the name of authorised



representative of Lab who collected the sample and date of collecting sample

9. Proof of possession of premises. (Sale deed/ Rent agreement/ Electricity bill, etc.)

10. Partnership Deed/Affidavit/Memorandum & Articles of Association towards the constitution of the firm.

11. NOC from manufacturer in case of Re-labellers

12. Food safety management system plan or certificate if any

13. Source of milk or procurement plan for milk including location of milk collection centres etc in case of Milk and Milk Products processing units.

14. Source of raw material for meat and meat processing plants

15. Pesticide residues report of water to be used as ingredient in case of units manufacturing Packaged drinking water, packaged Mineral water and/or carbonated water from a recognised/ public health laboratory indicating the name of authorised representative of Lab who collected the sample and date of collecting sample

16. Recall plan, if any

17. NOCs from Municipality or local body and from State Pollution Control Board except in case of notified industrial area.

**During renewal or transfer of license given under other laws existing prior to these Regulations**

1. Any change in documents or information provided during grant of previous license
2. Certificate or Plan of Food Safety Management system being adopted (for units under Central Licensing it has to be a certificate from accredited agencies)
3. List of workers with their medical fitness certificates.
4. Name, qualification and details of technical personnel in charge of operation.

**Conditions of License**

All Food Business Operators shall ensure that the following conditions are complied with at all times during the course of its food business.

Food Business Operators shall:

- 1.** Display a true copy of the license granted in Form C shall at all times at a prominent place in the premises
- 2.** Give necessary access to licensing authorities or their authorised personnel to the premises
- 3.** Inform Authorities about any change or modifications in activities
- 4.** Employ at least one technical person to supervise the production process. The person supervising the production process shall possess at least a degree in Science with Chemistry/Bio Chemistry/Food and Nutrition/ Microbiology or a degree or diploma in food technology/ Dairy technology/ dairy microbiology/ dairy chemistry/ dairy engineering /oil technology /veterinary science /hotel management & catering technology or any degree or diploma in any other discipline related to the specific requirements of the business from a recognized university or institute or equivalent.
- 5.** Furnish periodic annual return 1<sup>st</sup> April to 31<sup>st</sup> March, within 31<sup>st</sup> May of each year. For manufacture of Milk and Milk Products monthly returns also to be furnished.
- 6.** Ensure that no product other than the product indicated in the license/ registration is produced in the unit.

**7.** Maintain factory's sanitary and hygienic standards and worker's Hygiene as specified in the Schedule – 4 according to the category of food business.

**8.** Maintain daily records of production, Raw materials utilization and sales in separate register. ( whichever is applicable)

**9.** Ensure that the source and standards of raw material used are of optimum quality.

**10.** Food Business Operator shall not manufacture, store or expose for sale or permit the sale of any article of food in any premises not effectively separated to the satisfaction of the licensing authority from any privy, urinal, sullage, drain or place of storage of foul and waste matter.

**11.** Ensure Clean-In-Place systems (wherever necessary) for regular cleaning of the machine & equipments.

**12.** Ensure testing of all chemical and microbiological contaminants in food products through own or NABL/recognized labs atleast once in a month.

**13.** Ensure that required temperature is maintained throughout the supply chain from the place of procurement or sourcing till it reaches the end consumer including chilling, transportation, storage etc.

### **Other conditions**

**1.** Proprietors of hotels, restaurants and other food stalls who sell or expose for sale savouries, sweets or other articles of food shall put up a notice board containing separate lists of the articles which have been cooked in ghee, edible oil, vanaspati and other fats for the information of the intending purchasers.

**2.** Food Business Operator selling cooked or prepared food shall display a notice board containing the nature of articles being exposed for sale

**3.** Every manufacturer [including ghani operator] or wholesale dealer in butter, ghee, vanaspati, edible oils, Solvent extracted oil, de oiled meal, edible flour and any other fats shall maintain a register showing the quantity of manufactured, received or sold, nature of oil seed used and quantity, quantity of de oiled meal and edible flour used etc. as applicable and the destination of each consignment of the substances sent out from his manufactory or place of business, and shall present such register for inspection whenever required to do so by the licensing authority.

**4.** No producer or manufacturer of vegetable oil, edible oil and their products shall be eligible for license under this Act, unless he has his own laboratory facility for analytical testing of samples.

**5.** Every sale or movement of stocks of solvent-extracted oil, 'semi refined' or 'raw grade I', edible groundnut flour or edible coconut flour, or both by the producer shall be a sale or movement of stocks directly to a registered user and not to any other person, and no such sale or movement shall be effected through any third party.

**6.** Every quantity of solvent-extracted oil, edible groundnut flour or edible coconut flour, or both purchased by a registered user shall be used by him in his own factory entirely for the purpose intended and shall not be re-sold or otherwise transferred to any other person:

Provided that nothing in this sub-clause shall apply to the sale or movement of the following:-

(i) karanjia oil;

(ii) kusum oil;

(iii) mahuva oil;

(iv) neem oil;

(v (vi) tamarind seed oil.

(vii) edible groundnut flour bearing the I.S.I.Certification Mark

(viii)edible coconut flour bearing the I.S.I.Certification Mark

**7.** No Food Business Operator shall sale or distribute or offer for sale or dispatch or deliver to any person for purpose of **sell** any edible oil which is not packed, marked and labelled in the manner specified in the regulations unless specifically exempted from this condition vide notification in the official Gazette issued in the public interest by Food Safety Commissioners in specific circumstances and for a specific period and for reasons to be recorded in writing.

**FORM 'C' - License Format**  
**(See Regulation 3.2.4 (6))**  
**Government of India**  
**Food Safety and Standards Authority of India**

**License under FSS Act, 2006**

License No \_\_\_\_\_

1. Name and Registered Office address of licensee

\_\_\_\_\_

2. Address of authorized premises

\_\_\_\_\_

3. Kind of Business

\_\_\_\_\_

4. For dairy business details of location with address and capacity of Milk Chilling Centers (MCC) / Bulk Milk Cooling Centers (BMCs) owned by the holder of licensee/RC

5. Category of License:

This license is granted under and is subject to the provisions of FSS Act, 2006 all of which must be complied with by the licensee.

Place:

Date:

Stamp and signature of Designated Officer  
Food Safety and Standards Authority of India

**Validation and Renewal**

<b>Renewal Date</b>	<b>Period of validity</b>	<b>License fee paid</b>	<b>Items of Food products with authorized Manufacture/ pack/ Re-label capacities to Re-</b>	<b>Signature of Designated Officer</b>



**'FORM D-1'**  
**Annual Return**  
**(for business other than milk and milk products)**  
**(See Regulation 3.2.13)**

1. Name and address of Licensee:-
  
2. Address of the authorized premises for the manufacturing / Re-Packing / Re-Labeling of food products:
  
3. License No. ....
  
4. Statement showing quantities of food products manufactured and exported in Tonnes

<b>Name of the food product</b>	<b>Size of can / bottle/any other package (like PP) or bulk package</b>	<b>Quantity in MT</b>	<b>Sale price per Kg or per unit of packing</b>	<b>Value</b>	<b>Quantity exported/imported in Kg</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4.</b>	<b>5</b>	<b>6</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>7</b>	<b>8</b>	<b>9</b>	<b>10</b>

**'FORM D-2'**  
**(See Regulation 3.2.13)**

**Part I**

**Monthly Return for Milk and Milk Products**

**For the month ..... of the year .....**

1. Name and address of Licensee:-
  
2. Address of the authorized premises for the manufacturing/re-  
packing/re-labelling of food products:
  
3. License No. ....
  
4. Milk Procurement

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Type of milk	Total Qty. (Tonnes)	Av. Price Rs/kg of milk	Price Rs./kg of fat	Price Rs./kg of SNF	Remarks, if any
Cow					
Buffalo					
Mixed					

---

Rs/kg - Rupees per kilogramme

## 5. Details of Receipts, Sale and Stocks of Products

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Product Name	Opening stock (tonnes)	Receipts Produced (tonnes)	Purchased (tonnes)	Product sold (tonnes)	Closing stock (tonnes)
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### **1. Fresh milk**

- Standardized
- Toned
- Double toned
- Whole
- Skimmed
- Others (Specify)

### **2. Milkfat products**

- Butter
- Ghee
- Butteroil

### **3. Dried milks**

- Skimmed
- Whole

### **4. Other milk products**

---

Place

Date

Signature of the Licensee

A register detailing the above information shall be maintained by each licensee for inspections.

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**'Form D-2'**

**Part II**

**Annual Return for Milk and Milk Products**

**For the year .....**

1. Name and address of Licensee:-
  
2. Address of the authorized premises for the manufacturing/re-packing/re-labelling of food products:
  
3. License No. ....
  
4. Statement showing quantities of food products manufactured and exported in Tonnes with their sale value during the period .....

**Procurement**

<b>Type of milk</b>	<b>Total Qty MT</b>	<b>Procurement Total fat MT</b>	<b>Total SNF MT</b>	<b>Price Rs / kg of milk</b>	<b>Price Rs/kg of fat</b>	<b>Price Rs/kg of SNF</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b><u>Cow</u></b>						
<b><u>Buffalo</u></b>						
<b><u>Mixed</u></b>						
<b><u>Products</u></b>						

## Reconstitution

<b><u>Utilized for making liquid milk or milk products</u></b>	Whole milk powder (tonne)	Skimmed milk powder (tonne)	Butter oil (tonne)	White butter (tonne)
All liquid milks for sale <ul style="list-style-type: none"> <li>• In lean season (Apr-Sep)</li> <li>• In flush season (Oct-Mar)</li> </ul> Other milk products <ul style="list-style-type: none"> <li>• In lean season (Apr-Sep)</li> <li>• In flush season (Oct-Mar)</li> </ul>				

Annexure details regarding name, location etc.

## **Stocks**

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<b>Product Name</b>	<b>Opening stock (Tonnes)</b>	<b>Closing stock (Tonnes)</b>
---------------------	-------------------------------	-------------------------------

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### **1. Fresh milk**

- **Standardized**
- **Toned**
- **Double toned**
- **Whole**
- **Skimmed**
- **Others (Specify)**

**2. Milkfat products**

- **Butter**
- **Ghee**
- **Butteroil**

**3. Dried milks**

- **Skimmed**
- **Whole**

**4. Other milk products**

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---

Date:

Signature of the Licensee

A register detailing the above information shall be maintained by each licensee for inspections. `

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**SCHEDULE - 3**

**FEE FOR GRANT/ RENEWAL OF LICENCE  
REGISTRATION / LICENCE FEE PER ANNUM IN RUPEES**

**1. Fees for Registration** **Rs 100**

**2. Fees for License issued by Central  
Licensing Authority:** **Rs 7500**

**3. Fees for License issued by State Licensing Authority:**

**1. Manufacturer /Miller**

(i) Above 1MT per day Production or 10,001 to 50,000 LPD of milk or 501 to 2500 MT of milk solids per annum

**Rs. 5000/-**

(ii) Below 1 MT of Production or 101 to 10,000 LPD of milk or 51 MT to 500 MT of milk solids per annum

**Rs.3000/-**

**2. Hotels –3 Star and above** **Rs. 5000/-**

**3. All Food Service providers** including restaurants/boarding houses, clubs etc. serving food, Canteens (Schools, Colleges, Office, Institutions), Caterers, Banquet halls with food catering arrangements, food vendors like dabba wallas etc. **Rs. 2000/-**

**4. Any other Food Business Operator** **Rs. 2000/-**

**The fees paid by any applicant for a licence shall not be refundable under any circumstances.**



### **Issue of Duplicate registration or License**

(1). Where a registration certificate or license is lost, destroyed, torn, defaced or mutilated, the applicant may apply for a duplicate copy of the registration certificate or license during the validity period, accompanied with a fee amounting to 10% of the applicable License fee.

(2). On receipt of such an application, the Licensing Authority shall grant a duplicate copy of the registration certificate or license, as the case may be to the applicant with the word "Duplicate" appearing prominently thereon.

## **Schedule 4**

### **General Hygienic and Sanitary practices to be followed by Food Business operators**

It is hereby recognized and declared as a matter of legislative determination that in the field of human nutrition, safe, clean, wholesome food for manufacturing purposes is indispensable to the health and welfare of the consumer of the country; that majorly food is a perishable commodity susceptible to contamination and adulteration; that the production and distribution of an adequate supply of clean, safe and wholesome food for processing, manufacturing and direct consumption purposes are significant to sound health and that minimum sanitary and hygienic conditions are deemed to be necessary for the production and distribution of milk for manufacturing purposes.

The establishment in which food is being handled, processed, manufactured, stored, distributed by the food business operator whether holder of registration certificate or a license as per the norms laid down in these regulations and the persons handling them should conform to the sanitary and hygienic requirement, food safety measures and other standard as specified below. It shall also be deemed to be the responsibility of the food business operator to ensure adherence to necessary requirements.

In case inspection of the units is directed by the Registering or Licensing Authority, the inspection should confirm that the following measures are adopted by the unit as far as possible:

**Part I - General Hygienic and Sanitary practices to be followed by Petty Food Business Operators applying for Registration**  
**(See Regulation 3.2.1(2))**

**A. SANITARY AND HYGIENIC REQUIREMENTS FOR FOOD MANUFACTURER/ PROCESSOR**

The place where food products are manufactured, shall comply with the following requirements:

1. The premises to conduct food business for manufacturing should not have area less than 20 m<sup>2</sup> and adequate space for storage.
2. The premises shall be clean, adequately lighted and ventilated and sufficient free space for movement.
3. The premises shall be located in a sanitary place and free from filthy surroundings.
4. Floors and walls must be maintained in a sound condition. They should be smooth and easy to clean.
5. Ceilings should be in good condition, smooth and easy to clean, with no flaking paint or plaster.
6. The floor and skirted walls shall be washed daily with a disinfectant like phenyl at the close of day's business.
7. The premises shall be kept free from all insects by an insecticidal spray having knock-down effect at the close of day's business. No spraying shall be done during the conduct of business, but instead fly swats/flaps should be used to kill spray flies getting into the premises. Windows, doors and other opening suited to screening shall be fly proofed.
8. The water used in the manufacturing shall be potable and if required chemical and bacteriological examination of the water shall be done at regular intervals at any recognized laboratory.

9. Continuous supply of potable water shall be ensured in the premises. In case of intermittent water supply, adequate storage arrangement shall be made.
10. Equipment and machinery when employed shall be of such design which will permit easy cleaning. Arrangements for cleaning of containers, tables, working parts of machinery, etc. shall be provided.
11. 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 food. (Copper or brass vessels shall have proper lining).
12. All equipments shall be kept clean, washed, dried and stacked at the close of day's business to ensure freedom from growth of mould/ fungi and infestation. All equipments shall be placed well away from the walls to allow proper inspection.
13. There should be efficient drainage system and there shall be adequate provisions for disposal of refuse.
14. The workers working in processing and preparation shall use clean aprons, hand gloves, and head wears.
15. Persons suffering from infectious diseases shall not be permitted to work. Any cuts or wounds shall remain covered at all time and the person should not be allowed to come in direct contact to food.
16. All food handlers shall keep their finger nails trimmed, clean and wash their hands with soap, detergent and water before commencing work and every time after using toilet.
17. Scratching of body parts, hair shall be avoided during food handling processes.

18. All food handlers should avoid wearing jewellery, false nails or other items that might fall into food and also avoid touching their face or hairs.
19. Eating, chewing, smoking, spitting and nose blowing shall be prohibited within the premises.
20. All articles that are stored or are intended for sale shall have proper cover to avoid contamination.
21. The vehicles used to transport foods must be maintained in good repair and kept clean.
22. Foods while in transport in packaged form or in containers shall maintain the required temperature.
23. Insecticides / disinfectants shall be kept and stored separately and away from food manufacturing / storing / handling areas.

**B. SANITARY AND HYGIENIC REQUIREMENTS FOR UNITS OTHER THAN MANUFACTURING**

1. Location shall be away from rubbish, waste water, toilet facilities, open drains and animals.
2. Rubbish bin with cover shall be provided.
3. Working surfaces of vending carts shall be hygienic, impermeable, easy to clean (like stainless steel), 60 to 70 cm. from ground.
4. Sale points, tables, awnings, benches and boxes, cupboards, glass cases, etc. shall be clean and tidy.
5. Cooking utensils and crockery shall be clean and in good condition. It should not be broken/ chipped.
6. All containers shall be kept clean, washed and dried at the close of day's business to ensure freedom from growth of mould/ fungi and infestation.

7. Vending cart shall be built of solid, rust/ corrosion resistant materials and kept in clean and good condition.
8. Transported drinking water (treated water like bottled water, boiled/ filtered water through water purifier etc.) shall be in protected containers of at least 20 litres.
9. Vending cart shall be protected from sun, wind and dust and when not in use, food vending vans shall be kept in clean place and properly protected.
10. Cooking, storage and serving shall not be done in utensils of copper, cadmium, lead, non food grade plastic and other toxic materials.
11. Utensils shall be cleaned of debris, rinsed, scrubbed with detergent and washed under running tap water after every operation.
12. Wiping utensils shall be done with clean cloth.
13. Removing dust or crumb shall not be done by blowing on the plates or utensils.
14. The person suffering from infectious disease shall not be permitted to work.
15. All food handlers shall keep their finger nails trimmed, clean and wash their hands with soap, detergent and water before commencing work and every time after using toilet.
16. All food handlers should avoid wearing jewellery, false nails or other items that might fall into food and also avoid touching their face or hairs.
17. All articles that are stored or intended for sale shall have proper cover to avoid contamination.
18. Eating, chewing, smoking, sniffing, spitting and nose blowing shall be prohibited within the premises.

19. Adequate number of racks, shall be provided for storage of articles of food, with clear identity of each commodity. Proper compartment for each class shall also be provided wherever possible.

## **Part-II**

### **General Requirements on Hygienic and Sanitary Practices to be followed by all Food Business Operators applying for License**

The establishment in which food is being handled, processed, manufactured, packed, stored, and distributed by the food business operator and the persons handling them should conform to the sanitary and hygienic requirement, food safety measures and other standard as specified below. It shall also be deemed to be the responsibility of the food business operator to ensure adherence to necessary requirements.

In addition to the requirements specified below, the food business shall identify steps in the activities of food business, which are critical to ensuring food safety, and ensure that safety procedures are identified, implemented, maintained and reviewed periodically.

#### **1. LOCATION AND SURROUNDINGS**

- 1.1 Food Establishment shall be located away from environmentally polluted areas and industrial activities which produce disagreeable or obnoxious odour, fumes, excessive soot, dust, smoke, chemical or biological emissions and pollutants, and which pose a serious threat of contaminating food; areas subject to flooding; areas prone to infestations of pests; and areas where wastes, either solid or liquid, cannot be removed effectively.
- 1.2 The premise should not be used for residential purpose, nor shall it has or capable of having direct access inside the premise.



## **2. LAYOUT AND DESIGN OF FOOD ESTABLISHMENT PREMISES**

- 2.1 The layout of the food establishment shall be such that food preparation / manufacturing process are not subject to cross-contamination from viz. receiving, pre-processing (viz. packaging, dishing / portioning of ready-to-eat food). To prevent cross contamination, the activities shall be totally compartmentalized and strict measures should be taken to see that material movement happens only in one direction without any backward flow and any mixing up of various activities. Area occupied by machinery shall not be more than 50% of the manufacturing area.
- 2.2 The floor of food processing / food service area shall be made of impervious, non-absorbent, washable and non-toxic materials. Floor surfaces shall remain dry and maintained in a sound condition so that they are easy to clean and where necessary, disinfect. Floors shall be sloped appropriately to facilitate drainage and the drainage shall flow in a direction opposite to the direction of food preparation / manufacturing process flow. The openings of the drains to be thoroughly covered with wire mesh to prevent insects and rodents from entering the processing area.
- 2.3 The walls shall be made of impervious, non-absorbent, washable and non-toxic materials and require a smooth surface easy to clean up to a height appropriate for the operations and wherever necessary, disinfect.
- 2.4 Ceilings and overhead fixtures shall be designed, constructed, finished and maintained so as to minimize the accumulation of dirt,

condensation and growth of undesirable moulds and shedding of paint or plaster particles. Sufficient number of Windows and exhaust openings shall be provided to minimize accumulation of dirt.

2.5 Windows, doors & all other openings to outside environment shall be well screened with wire-mesh or insect-proof screen as applicable to protect the premise from fly and other insects / pests / animals & the doors be fitted with automatic closing springs. The mesh or the screen should be type which can be easily removed for cleaning.

2.6 Doors shall be made of smooth and non-absorbent surfaces so that they are easy to clean and wherever necessary, disinfect.

### **3. EQUIPMENT**

3.1 Equipment and containers that come in contact with food and used for food handling, storage, preparation, processing, packaging and serving shall be made of corrosion free materials, which do not impart any toxicity to the food material. Equipment and utensils used in the preparation of food shall be kept at all times in good order and repair and in a clean and sanitary condition. No such utensil or container shall be used for any other purpose.

3.2 Every utensil or container containing any food or ingredient of food intended for sale shall at all times be either provided with a proper fitting cover/lid or with a clean gauze net or other material of texture sufficiently fine to protect the food completely from dust, dirt and flies and other insects.

- 3.3 No utensil or container used for the manufacture or preparation of or containing any food or ingredient of food intended for sale shall be kept in any place in which such utensil or container is likely by reason of impure air or dust or any offensive, noxious or deleterious gas or substance or any noxious or injurious emanations, exhalation, or effluvium, to be contaminated and thereby render the food noxious.
- 3 Equipment shall be such located, designed and fabricated so that it permits necessary maintenance and cleaning functions as per its intended use and facilitates good hygiene practices inside the premise including monitoring and audit.
- 3.4 Appropriate facilities for the cleaning and disinfecting of equipments and instruments especially cleaning in place (CIP) system to be adopted.
- 3.5 Equipment and containers for waste, by-products and inedible or dangerous substances, shall be specifically identifiable and suitably constructed.
- 3.6 Containers used to hold cleaning chemicals and other dangerous substances shall be identified and stored separately to prevent malicious or accidental contamination of food.
- 3.7 To put in place, if required, a waste water disposal system / effluent treatment plant as approved by State Pollution Control Board

3.8 All items, fittings and equipment that touch or come in contact to food must be:

- kept in good condition in a way that enables them to be kept clean and wherever necessary, to be disinfected
- Chipped enameled containers will not be used. Stainless /aluminum / glass containers, mugs, jugs, trays etc. suitable for cooking and storing shall be used. Brass utensils shall be frequently provided with in lining

## **4. FACILITIES**

### **4.1 Water supply**

4.1.1 Only potable water, meeting the requirements of Bureau of Indian Standards specifications, with appropriate facilities for its storage, distribution shall be used as an ingredient and also for food handling, washing, processing and cooking. Water storage tanks shall be cleaned periodically and records of the same shall be maintained in a register.

4.1.2 Non potable water can be used provided it is intended only for cooling of equipment, steam production, fire fighting & refrigeration equipment and provided that pipes installed for this purpose preclude the use of this water for other purposes and present no direct or indirect risk of contamination of the raw material, dairy products or food products so processed, packed & kept in the premise.

4.1.3 Non potable water pipes shall be clearly distinguished from those in use for potable water.

## **4.2 For Cleaning Utensils / Equipments**

Adequate facilities for cleaning, disinfecting of utensils and equipments shall be provided. The facilities must have an adequate supply of hot and cold water.

## **4.3 Washing of Raw materials**

Adequate facilities for washing of raw food should be provided. Every sink (or other facilities) for washing food must have an adequate supply of hot and/or cold water. The water shall at least be of potable in nature. These facilities must be kept clean and, where necessary, disinfected. Sinks which are used for washing raw foods shall be kept separate and that should not be used for washing utensils or any other purposes.

## **4.4 Ice and Steam**

Ice and steam used in direct contact with food shall be made from potable water and shall comply with requirements specified under 4.1.1. Ice and steam shall be produced, handled and stored in such a manner that no contamination can happen

## **4.5 Drainage and waste disposal**

4.5.1 The disposal of sewage and effluents (solid, liquid and gas) shall be in conformity with requirements of Factory / Environment Pollution Control Board. Adequate drainage, waste disposal systems and facilities shall be provided and they shall be designed and constructed in such manner so that the risk of contaminating food or the potable water supply is eliminated.

4.5.2 Waste storage shall be located in such that it does not contaminate the food process, storage areas, the environment inside and outside the food establishment and waste shall be kept in covered containers and shall not be allowed to accumulate in food handling, food storage, and other working areas.

4.5.3 Periodic disposal of the refuse / waste be made compulsory. No waste shall be kept open inside the premise and shall not be discharged outside the premise, on the road or drainage system.

4.5.4 Proper care shall be taken while disposing plastic /metal / glass materials, bags, containers and others which are not environment friendly.

4.5.5 Food waste and other waste materials shall be removed periodically from the place where food is being handled or cooked or manufactured to avoid building up. A refuse bin of adequate size with a pedal operated cover shall be provided in the premises for collection of waste material. This shall be emptied and washed daily with a disinfectant and dried before next use.

#### **4.6 Personnel facilities and toilets**

4.6.1 Personnel facilities shall include proper washing and drying of hands before touching food materials including wash basins and a supply of hot and /or cold water as appropriate; separate lavatories, of appropriate hygienic design, for males and females separately; and changing facilities for personnel and such facilities shall be suitably

located so that they do not open directly into food processing, handling or storage areas.

4.6.2 Number of toilets depends on the number of employees (male /female) in the establishment and they should be made aware of the cleanliness requirement while handling food.

4.6.3 Rest and refreshments rooms shall be separate from food process and service areas and these areas shall not lead directly to food production, service and storage areas.

4.6.4 A display board mentioning do's & don'ts for the workers shall be put up inside a prominent place in the premise in English or in local language for everyone's understanding

#### **4.7 Air quality and ventilation**

Ventilation systems natural and /or mechanical including air filters, exhaust fans, wherever required, shall be designed and constructed so that air does not flow from contaminated areas to clean areas.

#### **4.8 Lighting**

Natural or artificial lighting shall be provided to the food establishment, to enable the undertaking to operate in a hygienic manner. Lighting fixtures must wherever appropriate, be protected to ensure that food is not contaminated by breakages.

### **5. FOOD OPERATIONS AND CONTROLS**

#### **5.1 Procurement of raw materials**

5.1.1 No raw material or ingredient thereof shall be accepted by an establishment if it is known to contain parasites, undesirable micro-organisms, pesticides, veterinary drugs or toxic items, decomposed or extraneous substances, which would not be reduced to an acceptable level by normal sorting and/or processing.

5.1.2 In addition the raw materials, food additives and ingredients, wherever applicable, shall conform to the Regulations and regulations laid down under the Act.

5.1.3 Records of raw materials, food additives and ingredients as well as their source of procurement shall be maintained in a register for inspection.

## **5.2 Storage of raw materials and food**

5.2.1 Food storage facilities shall be designed and constructed to enable food to be effectively protected from contamination during storage; permit adequate maintenance and cleaning, to avoid pest access and accumulation.

5.2.2 Cold Storage facility shall be provided to raw processed / packed food according to the type and requirement.

5.2.3 Segregation shall be provided for the storage of raw, processed, rejected, recalled or returned materials or products. Such areas, materials or products shall be suitable if marked and secured. Raw materials and food shall be stored in separate areas from printed



packaging materials, stationary, hardware and cleaning materials / chemicals.

5.2.4 Raw food, particularly meat, poultry and seafood products shall be cold stored separately from the area of work-in-progress, processed, cooked and packaged products. The conditions of storage in terms of temperature and humidity requisite for enhancing the shelf life of the respective food materials / products shall be maintained.

5.2.5 Storage of raw materials. Ingredients, work-in-progress and processed / cooked or packaged food products shall be subject to **FIFO** (First in, First Out) stock rotation system.

5.2.6 Containers made of non-toxic materials shall be provided for storage of raw materials, work-in-progress and finished / ready to serve products. The food materials shall be stored on racks / pallets such that they are reasonably well above the floor level and away from the wall so as to facilitate effective cleaning and prevent harbouring of any pests, insects or rodents.

### **5.3 Food Processing / Preparation, Packaging and Distribution / Service**

#### **5.3.1. Time and temperature control**

5.3.1.1 The Food Business shall develop and maintain the systems to ensure that time and temperature is controlled effectively where it is critical to the safety and suitability of food. Such control shall include time and temperature of receiving, processing, cooking, cooling,

storage, packaging, distribution and food service upto the consumer, as applicable.

5.3.1.2 Whenever frozen food / raw materials are being used / handled / transported, proper care should be taken so that defrosted / thawed material shall not be stored back and after opening for future use.

5.3.1.3 Such systems shall also specify tolerance limits for time and temperature variations and the records thereof shall be maintained in a register for inspection.

5.3.1.4 Wherever cooking is done on open fire, proper outlets for smoke/steam etc. like chimney, exhaust fan etc. shall be provided.

## **5.4 Food Packaging**

5.5.1 Packaging materials shall provide protection for all food products to prevent contamination, damage and shall accommodate required labelling as laid down under the FSS Act & the Regulations there under.

5.5.2 Only Food grade packaging materials to be used. For packaging materials like aluminium plastic and tin, the standards to be followed are as mentioned under the FSS Regulations and rules framed there under.

5.5.3 Packaging materials or gases where used, shall be non-toxic and shall not pose a threat to the safety and suitability of food under the specified conditions of storage and use.

## **5.5 Food Distribution / Service**

5.5.1 An appropriate supply chain needs to be incorporated in the system to minimize food spoilage during transportation Processed / packaged and / or ready-to-eat food shall be protected during transportation and / or service.

5.5.2 Temperatures and humidity which is necessary for sustaining food safety and quality shall be maintained. The conveyances and /or containers shall be designed, constructed and maintained in such that they can effectively maintain the requisite temperature, humidity, atmosphere and other conditions necessary to protect food Conveyances and / or containers used for transporting / serving foodstuffs shall be non toxic, kept clean and maintained in good condition in order to protect foodstuffs from any contamination.

5.5.3 Receptacles in vehicles and / or containers shall not be used for transporting anything other than foodstuffs where this may result in contamination of foodstuffs. Where the same conveyance or container is used for transportation of different foods, or high risk foods such as fish, meat, poultry, eggs etc., effective cleaning and disinfections shall be carried out between loads to avoid the risk of cross- contamination. For bulk transport of food, containers and conveyances shall be designated and marked for food use only and be used only for that purpose.

## **6. Management and Supervision**

6.1 A detailed Standard Operating Procedure (SOP) to be developed for proper management which in turn would help in identifying any problem at exact point, so the course of damage control would be faster

6.2 The Food Business shall ensure that technical managers and supervisors have appropriate qualifications, knowledge and skills on food hygiene principles and practices to be able which shall enable them to ensure food safety and quality of its products, judge food hazards, take appropriate preventive and corrective action, and to ensure effective monitoring and supervision.

## **7 Food Testing Facilities**

7.1 A well equipped, modern laboratory for testing of food materials / food for physical, microbiological and chemical analysis in accordance with the specification/standards laid down under the rules and regulations shall be in place inside the premise for regular / periodic testing and when ever required.

7.2 In case of any suspicion or possible contamination, food materials / food shall be tested before dispatch from the factory.

7.3 If there is no in house laboratory facility, then regular testing shall be done through an accredited laboratory. In case of complaints received and if so required, the company shall voluntarily do the testing either in the in-house laboratory or from a designated lab outside.

## **8 Audit, Documentation and Records**

- 8.1 A periodic audit of the whole system according to the SOP be done to find out any fault / gap in the GMP / GHP system
- 8.2 Appropriate records of food processing / preparation, production / cooking, storage, distribution, service, food quality, laboratory test results, cleaning and sanitation, pest control and product recall shall be kept and retained for a period of one year or the shelf-life of the product, whichever is more.

## **9 SANITATION AND MAINTENANCE OF ESTABLISHMENT PREMISES**

### **9.1 Cleaning and maintenance**

- 9.1.1 A cleaning and sanitation programme shall be drawn up and observed and the record thereof shall be properly maintained, which shall indicate specific areas to be cleaned; and cleaning frequency; cleaning procedure to be followed, including equipment and materials to be used for cleaning. Equipments used in manufacturing to be cleaned and sterilized after each use at the end of the day.
- 9.1.2 Cleaning chemicals shall be handled and used carefully in accordance with the instructions of the manufacturer and shall be stored separately away from food materials, in clearly identified containers, to avoid any risk of contaminating food.

9.1.3 Preventive maintenance of equipment, machinery, building and other facilities shall be carried out regularly as per the instructions of the manufacturer, to prevent any hazards from entering into the food while being processed or packed or served. Non-toxic, edible grade lubricants shall be used.

## **9.2 Pest Control Systems**

9.2.1 Food establishment shall be kept in good repairing condition to prevent pest access and to eliminate potential breeding sites. Holes, drains and other places where pests are likely to gain access shall be kept in sealed condition or fitted with mesh / grills / claddings as required and animals, birds and pets shall not be allowed to enter into the food establishment areas/ premises.

9.2.2 Food materials shall be stored in pest-proof containers stacked above the ground and away from walls.

9.2.3 Pest infestations shall be dealt with immediately and without adversely affecting the food safety or suitability. Treatment with permissible chemical, physical or biological agents, within the permissible limits, shall be carried out without posing a threat to the safety or suitability of food. Records of pesticides / insecticides used along with dates and frequency shall be maintained.

## **10 PERSONAL HYGIENE**

### **10.1 Health Status**

10.1.1 Personnel known, or suspected, to be suffering from, or to be a carrier of a disease or illness likely to be transmitted through food, shall not be allowed to enter into any food handling area if there is a

likelihood of their contaminating food. The Food Business shall develop system, whereby any person so affected, shall immediately report illness or symptoms of illness to the management and medical examination of a food handler shall be carried out apart from the periodic checkups, if clinically or epidemiologically indicated.

10.1.2 Arrangements shall be made to get the food handlers / employees of the establishment medically examined once in a year to ensure that they are free from any infectious, contagious and other communicable diseases. A record of these examinations signed by a registered medical practitioner shall be maintained for inspection purpose.

10.1.3 The factory staff shall be compulsorily inoculated against the enteric group of diseases once a year and a record towards that shall be kept for inspection.

10.1.4 In case of an epidemic, all workers to be vaccinated irrespective of the yearly vaccination.

## **10.2 Personal Cleanliness**

10.2.1 Food handlers shall maintain a high degree of personal cleanliness. The food business shall provide to all food handlers with adequate and suitable clean protective clothing, head covering, face musk, gloves and footwear and the food business shall ensure that the food handlers at work wear only clean protective clothes, head covering and footwear every day.

10.2.2 Food handlers, with any cut or wounds in their person, shall not come in direct contact with food or food contact surfaces.

10.2.3 Food handlers shall always wash their hands with soap and clean potable water, disinfect their hands and then dry with hand drier or clean cloth towel or disposable paper at the beginning of food handling activities; immediately after using the toilet; and after handling raw food or any contaminated material, tools, equipment or work surface, where this could result in contamination of other food items.

### **10.3 Personal Behavior**

10.3.1 Food handlers engaged in food handling activities shall refrain themselves from smoking; spitting; chewing or eating; sneezing or coughing over any food whether protected or unprotected food and eating in food preparation and food service areas.

10.3.2 The food handlers should trim their nails and hair periodically, do not encourage or practice unhygienic means while handling food.

10.3.3 Persons working directly with and handling raw materials or food products shall maintain high standards of personal cleanliness at all times. In particular:

a) they shall not smoke, spit, eat or drink in areas or rooms where raw materials and food products are handled or stored;



- b) wash their hands at least each time work is resumed and whenever contamination of their hands has occurred; e.g. after coughing / sneezing, visiting toilet, using telephone, smoking etc.
- c) avoid certain hand habits - e.g. scratching nose, running finger through hair, rubbing eyes, ears and mouth, scratching beard, scratching parts of bodies etc.- that are potentially hazardous when associated with handling food products, and might lead to food contamination through the transfer of bacteria from the employee to product during its preparation. When unavoidable, hands should be effectively washed before resuming work after such actions.

10.3.4 Food handlers shall not wear any belonging such as rings, bangles, jewellery, watches, pins and other items that pose a threat to the safety and suitability of food.

#### **10.4 Visitors**

10.4.1 Generally visitors should be discouraged to go inside the food handling areas. However, proper care has to be taken to ensure that food safety & hygiene is not getting compromised due to visitors in the floor area.

10.4.2 The Food Business shall ensure that visitors to its food manufacturing, cooking, preparation, storage or handling areas must wherever appropriate, wear protective clothing, footwear and adhere to the other personal hygiene provisions envisaged in this section.

### **11 PRODUCT INFORMATION AND CONSUMER AWARENESS**

All packaged food products shall carry a label and requisite information shall be there as per provisions of Food Safety & Standards Act, 2006 and Regulations & Regulations made there under so as to ensure that

adequate and accessible information is available to the next person in the food chain to enable them to handle, store, process, prepare and display the food products safely and correctly and that the lot or batch can be easily traced and recalled if necessary.

## **12 TRAINING**

12.1 The Food Business shall ensure that all food handlers are aware of their role and responsibility in protecting food from contamination or deterioration. Food handlers shall have the necessary knowledge and skills which are relevant to the food processing / manufacturing, packing, storing and serving so as to ensure the food safety and food quality.

12.2 The Food Business shall ensure that all the food handlers are instructed and trained in food hygiene and food safety aspects along with personal hygiene requirements commensurate with their work activities, the nature of food, its handling, processing, preparation, packaging, storage, service and distribution.

12.3 Periodic assessments of the effectiveness of training shall be made, as well as routine supervision and checks to ensure that food hygiene and food safety procedures are being carried out effectively Training programme shall be routinely reviewed and updated wherever necessary.

## **PART-III**

### **Specific Hygienic and Sanitary Practices to be followed by Food Business Operators engaged in manufacture, processing, storing & selling of Milk and Milk Products**

In addition to Part-2, the dairy establishment in which dairy based food is being handled, processed, manufactured, stored, distributed and ultimately sold by the food business operator, and the persons handling them should conform to the sanitary and hygienic requirement, food safety measures and other standard as specified below.

#### **I. SANITARY REQUIREMENTS**

1. Dairy Establishments shall have the following:
  - a) facilities for the hygienic handling and protection of raw materials and of non-packed or non-wrapped dairy products during loading and unloading, transport & storing including Bulk Milk cooling facilities
  - b) appropriate arrangements for protection against pests is must;
  - c) instruments and working equipment intended to come into direct contact with raw materials and dairy products which are made of corrosion-resistant material and which are easy to clean and disinfect;
  - d) special watertight, non-corrodible containers in which to put raw materials or dairy products intended for human consumption. Where

such raw materials or dairy products are removed through conduits, these shall be constructed and installed in such a way so as to avoid any risk of contamination of other raw materials or dairy products;

- e) appropriate facilities for the cleaning and disinfecting of equipment and instruments especially cleaning in place (CIP) system;
- f) an waste water disposal system which is hygienic and approved by Pollution Control Board;
- g) a lockable room or a secure place for the storage of detergents, disinfectants  
and other similar substances;
- h) facilities for cleaning & disinfecting of tanks used for transporting dairy products and raw milk. These containers have to be cleaned after every use.

2. Dairy establishments shall have working areas of sufficient size for work to be carried out under adequate hygienic conditions; their design and layout shall be such as to preclude contamination of the raw materials and the dairy products.

3. In areas where raw materials are handled and dairy products are manufactured, the areas shall have the following:

- a) solid, waterproof flooring which is easy to clean and disinfect and which allows water to drain away, and equipment to remove water;

- b) walls which have smooth surfaces and are easy to clean, are durable and impermeable and which are covered with light-coloured coating;
  - c) ceilings or roof linings which are easy to clean in those areas where exposed or non-packaged raw materials or dairy products are handled;
  - d) doors made of non-corrodible materials which are easy to clean;
  - e) ventilation and, where necessary, good steam and water-vapour extraction facilities in accordance with Factory Act, 1948;
  - f) adequate natural or artificial lighting in accordance with Factory Act, 1948;
  - g) an adequate number of facilities with hot and cold running water, or water pre-mixed to a suitable temperature, for cleaning and disinfecting hands; taps in work rooms and lavatories for cleaning and disinfecting hands which shall be non hand-operable (e.g. foot operated, sensor operated etc.), these facilities shall be provided with cleaning and disinfecting materials and a hygienic means of drying hands; and
  - h) facilities for cleaning tools, equipment and installations.
4. The occupier of a dairy establishment shall take appropriate measures to avoid cross-contamination of dairy products in accordance with the cleaning program specified earlier.

5. Where a dairy establishment produces food stuffs containing dairy products together with other ingredients, which have not undergone heat treatment or any other treatment having equivalent effect, such dairy products and ingredients shall be stored separately to prevent cross-contamination.
6. The production of heat-treated milk or the manufacture of milk-based products, which might pose a risk of contamination to other dairy products, shall be carried out in a clearly separated working area.
7. Instruments and equipment used for working on raw materials and dairy products, floors, ceilings or roof linings, walls and partitions shall be kept in a satisfactory state of cleanliness and repair, so that they do not constitute a source of contamination to raw materials or dairy products.
8. Equipment, containers and installations which come into contact with dairy products or perishable raw materials used during production shall be cleaned and if necessary disinfected according to a verified and documented cleaning programme.
9. Equipment, containers, instruments and installations which come into contact with microbiologically stable dairy products and the rooms in which they are stored shall be cleaned and disinfected according to a verified and documented Food Safety management system programme drawn up by the occupier of the dairy establishment.
10. The processing establishment shall in principle be cleaned according to a established, verified and documented Food safety management

programme. The manufacturer / shall take appropriate measures to avoid any kind of cross contamination.

11. Disinfectants and similar substances used shall be used in such a way that they do not have any adverse effects on the machinery, equipment, raw materials and dairy products kept at the dairy establishment. They shall be in clearly identifiable containers bearing labels with instructions for their use and their use shall be followed by thorough rinsing of such instruments and working equipment with potable water, unless supplier's *instructions* indicate otherwise.
12. Any container or tank used for transporting or storage of raw milk shall be cleaned and disinfected before re-use.

## **II. PERSONAL HYGIENE REQUIREMENTS**

1. The Food Business Operator shall employ those persons only in such an establishment to work directly with and handle raw materials or dairy products if those persons have proved to the occupier's satisfaction by means of a medical certificate, on recruitment, that there is no medical impediment to their employment in that capacity.
2. Persons working directly with and handling raw materials or dairy products shall maintain the highest standards of personal cleanliness at all times. In particular they shall
  - (a) wear suitable, clean working clothes and headgear which completely encloses their hair;

- (b) not smoke, spit, eat or drink in rooms where raw materials and dairy products are handled or stored;
  - (c) wash their hands at least each time work is resumed and whenever contamination of their hands has occurred; e.g. after coughing / sneezing, visiting toilet, using telephone, smoking etc.
  - (d) cover wounds to the skin with a suitable waterproof dressing. No person with injury on hand, even with dressing, shall be placed in any product making/handling section.
  - (e) avoid certain hand habits - e.g. scratching nose, running finger through hair, rubbing eyes, ears and mouth, scratching beard, scratching parts of bodies etc. that are potentially hazardous when associated with handling dairy products, and might lead to food contamination through the transfer of bacteria from the employee to product during its preparation. When unavoidable, hands should be effectively washed before resuming work after such actions
3. The occupier shall take all necessary measures to prevent persons liable to contaminate raw materials and dairy products from handling them until the occupier has evidence that such persons can do so without risk of contamination.

### **III. .SANITARY REQUIREMENTS FOR STORAGE**

1. Immediately after procuring, raw milk shall be placed in a clean place, which is suitably equipped so as to prevent any kind of contamination.



2. Where raw milk is collected daily from a producer, it shall, if not collected and brought to the dairy plant within four hours of milking, be cooled as soon as practicable after procuring to a temperature of 4°C and maintained at that temperature until processed;
3. Upon acceptance at a processing establishment milk shall, unless heat-treated *immediately*, be cooled to a temperature of 4°C or lower, if not already at such temperature, and maintained at that temperature until heat-treated.
4. When the pasteurization process is completed, pasteurized milk shall be cooled immediately to a temperature of 4°C or lower.
5. Subject to Paragraph 7 below, any dairy product not intended to be stored at ambient temperature shall be cooled as quickly as possible to the temperature established by the manufacturer of that product as suitable to ensure its durability and thereafter stored at that temperature.
6. Where dairy products other than raw milk are stored under cooled conditions, their storage temperatures shall be registered and the cooling rate shall be such that the products reach the required temperature as quickly as possible.
7. The maximum temperature at which pasteurized milk may be stored until it leaves the treatment establishment shall not exceed 5°C.

8. Dairy products not intended to be stored at ambient temperature shall be cooled as quickly as possible to the temperature established by the manufacturer of that product as suitable to ensure its durability and shelf life.
9. Where dairy products other than raw milk are stored under cool conditions, their storage temperatures shall be recorded and the cooling rate shall be adjusted in such a way that the products reach the required temperature at the earliest.

#### **IV. WRAPPING AND PACKAGING**

1. The wrapping packaging of dairy products shall take place under satisfactory hygienic conditions and in rooms provided for that purpose.
2. The manufacture of dairy products and packaging operations may take place in the same room if the following conditions are satisfied: -
  - (a) the room shall be sufficiently large and equipped to ensure the hygiene of the operations;
  - (b) the wrapping and packaging shall have been brought to the treatment or processing establishment in protective cover in which they were placed immediately after manufacture and which protects the wrapping or packaging from any damage during transport to the dairy establishment, and they shall have been stored there under hygienic conditions in a room intended for that purpose;

- (c) the rooms for storing the packaging material shall be free from vermin and from dust which could constitute an unacceptable risk of contamination of the product and shall be separated from rooms containing substances which might contaminate the products. Packaging shall not be placed directly on the floor;
  - (d) packaging shall be assembled under hygienic conditions before being brought into the room, except in the case of automatic assembly or packaging, provided that there is no risk of contamination of the products;
  - (e) packaging shall be done without delay. It shall be handled by separate group of staff having experience in handling and product wrapping and
  - (f) immediately after packaging, the dairy products shall be placed in the designated rooms provided for storage under required temperature.
3. Bottling or filling of containers with heat-treated milk and milk product shall *be* carried out hygienically.
  4. Wrapping or packaging may not be re-used for dairy products, except where the containers are of a type which may be re-used after thorough cleaning and disinfecting.
  5. Sealing shall be carried out in the establishment in which the last heat-treatment of drinking milk or liquid milk-base products has been carried out, immediately after filling, by means of a sealing device

which ensures that the milk is protected from any adverse effects of external origin on its characteristic. The sealing device shall be so designed that once the container has been opened, the evidence of opening remains clear and easy to check.

## **Part IV**

### **Specific Hygienic and Sanitary Practices to be followed by Food Business Operators engaged in manufacture, processing, storing & selling of Meat and Meat Products**

#### **A. Slaughter House**

Every person / establishment who slaughters large animals and small animals including sheep and goat or poultry birds within the premises of his factory for production of meat/ meat products for supply / sale/ distribution to the public shall comply with the following requirements, namely:-

#### **1. General Requirements:**

1.1 No Objection Certificate to be obtained from local Authority before grant of licence.

#### **2. Location of Premises:**

Such establishments / Slaughter Houses should be a unit of meat market located away from Vegetable, fish or other food markets and shall be free from undesirable odour, smoke, dust or other contaminants. The premises shall be located at elevated level in a sanitary place.

#### **3. Premise requirements:**

3.01 The slaughter house shall have a reception area/animal holding yard/resting yard, lairage, slaughter hall, side halls for hide collection, paunch collection, offals collection, and separation, holding room for

suspected/condemned carcass, by-product harvesting, staff welfare inspectors office, refrigeration room/cold room etc.

3.02 Every such establishment / Slaughter House shall make separate provision in the slaughter hall for the slaughter of different species which are proposed to be slaughtered (like large animal viz; Cattle and Buffalo, Pigs and small animals like Sheep & Goat) and for different methods of slaughter (like Halal, Jewish and Jhatka). After every type of operation the slaughter house shall be cleaned, washed wiped/dried and sanitized thoroughly.

3.03 The slaughter house shall have separation between clean and dirty sections and shall be so organized that from the introduction of a live animal into the slaughter house up to the emergence of meat and offal classed as fit for human consumption there shall be a continuous forward movement without any possibility of reversal, intersection or overlapping between the live animal and meat, and between meat and bye products or waste.

3.04 The reception area/animal holding yard/ resting yard shall have facilities for watering and examining animals before they are sent to holding pens/lairage. Animals suspected of contagious or infectious diseases shall be segregated and kept in separate isolation pens which shall also be provided with arrangements for watering and feeding. After confirmation for any notifiable disease, the designated Veterinary Authority shall notify the disease as per the existing procedures. The resting yard must have overhead protective shelter.**(This is not mandatory for registration category)**

3.05 The lairage shall be adequate in size for the number of animals to be laired.

3.06 Separate space shall be provided for stunning (Wherever applicable), for collection of blood and for dressing of the carcasses. The slaughtering of an animal shall not be done in the sight of other animals. The dressing of the carcass shall not be done on the floor. Suitable hoists will be provided to hang the carcass before it is eviscerated.

3.07 All the floors in lairage, slaughter halls, work rooms, hanging rooms shall be of impervious and non-slippery material.

3.08 The internal walls will be paved with impervious glazed tiles up to 1 meter height in case of poultry and small animal ruminants and 5 meter height in case of large animal ruminants. The walls and floors should be epoxy coated so as to avoid accumulation/absorption of dust, blood/meat particles, microbial/fungal growth.

3.09 Ceiling or roofs shall be so constructed and finished so as to minimise condensation, mould development, flaking and accumulation of dirt.

3.10 Suitable and sufficient accommodation shall be provided for segregation, storage and disposal of condemned meat.

3.11 The establishments / Slaughter Houses shall be so constructed and maintained as to permit hygienic production.

- 3.12 Windows, doors and other openings suited to screening shall be fly proof. All doors shall have strong springs so that they may close automatically.
- 3.13 All operations in connection with the preparation or packing of meat / meat food products shall be carried out under strict hygienic conditions. No portion of the establishments / Slaughter Houses premises shall ever be used for living or sleeping purposes unless it is separated from the factory by a wall.
- 3.14 There shall be efficient drainage and plumbing systems and all drains and gutters shall be properly and permanently installed. There shall be provision for the disposal of refuse.
- 3.15 The drainage system for blood shall either be underground with facility for easy cleaning or a portable receptacle with lid. All drainages will have traps and screens so as to prevent entry of predators like rats, mice, vermin etc.
- 3.16 The rooms and compartments where edible products are handled shall be separate and distinct from the rooms and compartments for inedible products.
- 3.17 Suitable and separate space shall be provided for the storage of hides and skins. This room shall have a separate exit.



- 3.18 A constant and sufficient supply of clean potable cold water with pressure hose pipes and supply of hot water should be made available in the slaughter hall during working hours.
- 3.19 Suitable and sufficient facilities shall be provided for persons working in the slaughter house for changing their clothes and cleaning their footwear, clothes and cleaning their hands before entering rooms used for the preparation and storage of meat.
- 3.20 provision for latrines, toilets and change rooms will be provided. Wherever five or more employees of either sex are employed, a sufficient number of latrines, urinals, washbasins and bathrooms for each sex shall be provided.
- 3.21 Suitable and sufficient facilities shall be provided in convenient places with in the slaughter house for the sterilisation of knives & sharpner (mushtala) and other equipment used in the slaughter house. The knives & sharpner (mushtala) shall be of stainless steel for only.
- 3.22 Whenever cooking is done on open fire, chimneys shall be provided for removal of smoke and soot.
- 3.23 Whenever the dressed meat is not used up for the preparation of meat food products and some portion has to be stored without further

immediate processing, such storage shall be in a room maintained at 0° C to 2° C.

3.24 All slaughter house refuse and waste materials will be suitably processed to prepare animal by products or dumped in pits that are suitably covered so as to prevent its access to scavengers. For large slaughter houses, a suitable provision of ETP will be made. A clearance from Environment Control Pollution Board should be a mandatory condition for such slaughter houses.

3.25 In case of small slaughter houses, this material should be composted which can be used for manure purpose and in case of large slaughter houses, this material should be rendered (cooked) in a rendering plant to produce meat & bone meal & inedible fats.

3.26 Suitable and sufficient facilities shall be provided for the isolation of meat requiring further examination by the authorised veterinary officer in a suitable laboratory within the premises of the slaughter house.

3.27 Consistent with the size of the factory and volume and variety of meat food products manufactured, a laboratory shall be provided, equipped and staffed with qualified (chemist/analyst and Veterinary Microbiologist)\* and trained personnel. The licensing authority shall accord approval of the laboratory after inspection.

The Chemist/analyst shall have passed graduation with Chemistry as one subject and the. Veterinary Microbiologist shall be a qualified

veterinarian with two years of experience in Meat analysis or having degree of Master in Veterinary Public Health with specialization in Meat Hygiene).

3.28. Adequate natural or artificial lighting should be provided throughout the abattoir/ meat processing unit. Where appropriate, the lighting should not alter colours and the intensity should not be less than 540 Lux (50 foot candles) at all inspection points, 220 Lux (20 foot candles) in work rooms and 110 Lux (10 foot candles) in other areas. Light bulbs and fixtures suspended over meat in any stage of production should be of a safety type and protected to prevent contamination of meat in case of breakage. To the possible extent meat inspection shall be carried out in the day light. Every abattoir shall be provided with well distributed artificial light.

#### **4. Sanitary Practices:**

4.01 Every part of the internal surface above the floor or pavement of such slaughter house shall be washed thoroughly with hot lime wash within the first 10 days of March, June, September and December. Every part of the floor or pavement of the slaughter house and every part of the internal surface of every wall on which any blood or liquid refuse or filth may have been spilt or splashed or with which any offensive or noxious matter have been brought into contact during the process of slaughtering, dressing and cutting, shall be thoroughly cleaned, washed with water, wiped/dried and disinfected within three hours after the completion of slaughter.

4.02 Rooms and compartments in which animals are slaughtered or any product is processed or prepared shall be kept sufficiently free from

steam, vapours and moisture and obnoxious odours so as to ensure clean and hygienic operations. This will also apply to overhead structures in those rooms and compartments.

4.03 All parts of the establishments / Slaughter Houses shall always be kept clean, adequately lighted and ventilated and shall be regularly cleaned, disinfected. The floorings shall be impervious and washed daily. Lime washing, colour washing or painting as the case may be, shall be done at least once in every twelve months.

4.04 All yards, outhouses, stores and all approaches to the establishments / Slaughter Houses shall always be kept clean and in a sanitary condition.

4.05 Suitable and sufficient receptacles furnished with closely fitted covers shall be provided for collection and removal of all garbage filth and refuse from the slaughter house at convenient time to a place away from the factory for disposal.

4.06 All blood , manure, garbage, filth or other refuse from any animal slaughtered and the hide, fat, viscera and offal there from, shall be removed from the slaughter house within 8 hours after the completion of the slaughtering and in such a manner and by such means as will not cause nuisance at the premises or elsewhere. Every such vessel or receptacle shall be thoroughly cleaned and disinfected immediately after use and shall be kept thoroughly clean when not in actual use.

4.07 The inner side of the skin shall not be rubbed or caused to be rubbed upon the ground within any portion of the slaughter hall. Hides and skins shall not be dragged within the slaughter hall. No gut-scraping, tripe cleaning, manufacture or preparation of meat food products, household washing of clothes or work of any nature other than is involved in the slaughter and dressing of the carcass shall be permitted in any slaughter hall except in the adjuncts to the slaughter hall intended for these products and purposes.

4.08 The premises shall be cleaned thoroughly with disinfectants, one day in advance of production of meat food products and the equipments shall be sterilised/sanitised before use. The rooms and compartments in which any meat food product is prepared or handled shall be free from dust and from odours emanating from dressing rooms, toilet rooms, catch basins, hide cellars, casing rooms and livestock pens.

4.09 Every practicable precaution shall be taken to exclude flies, rats, mice and vermin from the establishments / Slaughter Houses. The use of poisons for any purpose in rooms or compartments where any unpacked product is stored or handled is forbidden. The use of approved bait poisons in hide cellars, compartments where inedible products are stored, outhouses or similar buildings containing canned products is, however, not forbidden.

4.10 It shall be ensured that dogs, cats or birds do not have access to the slaughter hall. Open areas in the factory shall be having covered by wire rope netting to prevent carrion birds from access to the slaughter hall or the factory.

4.11 Water used in the establishments / Slaughter Houses shall be potable and suitable arrangements shall be made if bore well water is used for production of meat and meat products. If required by the licensing authority, the water shall be got examined chemically and bacteriologic ally by a recognised laboratory. The water quality shall comply the standards prescribed by the licensing Authority.

4.12 Warm meat' meant for immediate sale need not be stored in cool conditions. It can be transported in suitable a hygienic and sanitary condition in clean insulated containers with covers (lids) to the meat shops/selling units with precautions to ensure that no contamination/cross contamination or deterioration takes place.

## **5. Equipment & Machinery:**

5.1 The equipment and fittings in slaughter hall except for chopping blocks, cutting boards and brooms, shall be of such material and of such construction as to enable them to be kept clean. The implements shall be of metal or other cleansable and durable material resistant to corrosion.

5.2 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 meat food products. (Copper or brass vessels shall always be heavily lined. No iron or galvanised iron shall come in contact with meat food products).

## **6. Personnel Hygiene:**

6.1 No person suffering from infectious or contagious diseases shall be allowed to work in the factory. Arrangements shall be made to get the factory staff medically examined at such intervals as the licensing authority deems fit, 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.

6.2 The staff shall be inoculated against the enteric group of diseases once a year and a certificate thereof shall be kept for inspection.

6.3 In case of an epidemic, all workers should be inoculated or vaccinated.

6.4 The workers working in processing and preparation shall be provided with proper aprons and head wears which shall be clean. The management shall ensure that all workers are neat, clean and tidy.

**i) Animal Welfare**

Animal welfare is a major concern in meat production. It is essential that animals be reared, handled, transported, and slaughtered using humane practices. A healthy and peaceful animal is an essential requirement for hygienic slaughter and safety of the meat product.

Careful handling of animals during loading / unloading, transportation and at slaughtering helps in improving the quality of meat and reduction in losses in the value of the carcass/meat.

## **1. Pre Slaughter Handling of Animal:**

Livestock are transported *en masse* from the farm to the slaughterhouse, a process called "live export". Depending on its length and circumstances, this exerts stress and injuries on the animals and some may die *en route*. Apart from being arguably inhumane, unnecessary stress in transport may adversely affect the quality of the meat. In particular, the muscles of stressed animals are low in water and glycogen, and their pH fails to attain acidic values.

### **Transportation of Animals**

Following requirements shall be satisfied for Transportation of Animals from a farm to the slaughter house.

#### **1.0 General Conditions**

- 1.1 Only healthy animals in good condition shall be transported unless they are meant for emergency slaughter. These animals should be certified by a qualified veterinary inspector for freedom from infectious diseases and ecto-parasitic diseases and their fitness to undertake the journey.
- 1.2 When animals are to be transported from endemic areas of a disease to non-endemic areas, the animals should be given protective vaccination and kept in quarantine for 30 days, before transportation.
- 1.3 Female animals in advance stages of pregnancy shall not be transported.
- 1.4 When transporting large animals particularly bears/bulls, special arrangements by providing suitable partitions should be made to protect



the animals from infighting. Similar arrangements should also be made to protect the young ones from crushing when they are transported.

1.5 To avoid exhaustion, the animals shall be given humane treatment and care during transportation. The animals shall not be bound or chained during transit and space provided for them shall be large enough to stand or lie.

1.6 An attendant along with first aid equipment shall accompany the animals in transit.

1.7 Before loading, the animals should not be fed heavily. Only light feed may be allowed. For journeys less than 12 hours no feed may be carried but for longer journeys sufficient feed shall be carried to last during the journey. Watering facilities shall be provided at regular intervals.

1.8 Light and heavy animals shall be separated by providing partitions; animals from different pens/sheds shall not be mixed during transportation. Male stock shall not be transported with female stock (adults).

1.9 All vehicles should be inspected for safety, suitability and cleanliness before loading the animals. The floor and walls should be undamaged and there should be no nails or sharp projections which may injure the animals.

1.10 The Vehicles should be thoroughly sprayed with suitable disinfectant before loading the animals.

1.11 A layer of clean sand to cover the floor to a thickness of not less than 6 cm shall be provided. This layer of sand shall be moistened with water during the summer months. During hot months arrangements shall be made to sprinkle water on the animals at frequent intervals. In winter, a 2-cm layer of clean sand with another 6-cm layer of whole-straw shall be provided.

1.12 Animals when driven for loading or unloading shall never be struck with stick. Driving could best be done by soft-rubber pipe.

1.13 If animals are to be transported in extreme cold or hot climate, it is preferable to transport them in covered Lorries on road so that they may not die or get exhausted or suffer from acute respiratory disease and journey under such adverse climate shall be minimised.

1.14 Each consignment should bear a label showing the following particulars:

- a) Number and kind of the animals loaded;
- b) Name, address and telephone number, if any, of the consignor;
- c) Name address and telephone number, if any, of the consignee;
- d) Quantity of feed provided; and
- e) Instructions regarding feeding and watering.

## **2.0 Loading**

2.1 While loading, extremes of temperatures shall be avoided.

2.2 Suitable ramp shall be provided for loading and unloading the animals. The floor of the ramp shall have cleats at intervals, so that animals do not slip as they climb or descend. The ramp shall be covered with straw to

avoid slipping. Van at any time of loading and unloading shall be kept clean to avoid slipping of animals.

2.3 In case of railway wagons when loading is done on the platform, the door of the wagon may be used as ramp. In such cases, bails or bags of hay, agricultural wastes etc. may be placed on the either side of the dropped door to prevent the animals from getting their legs between the sides of the wagons and platform.

### **3.0 Space Requirements**

3.1 Overcrowding shall be avoided each animal shall have enough space to lie down.

3.2 Railway wagons shall not accommodate more animals than those specified in IS specifications.

3.3 The speed of truck transporting animals shall not exceed 40 kilometres per hour, avoiding jerks and jolts. The truck shall not load any other merchandise and shall avoid unnecessary stops on the road.

3.4 For journeys, exceeding 12 hours, the animals shall be transported by railway. Loading shall be done by evening.

### **4.0 Slaughter:**

Animals are slaughtered by being first stunned and then exsanguinated (bled out). Stunning can be effected through asphyxiating the animals with carbon dioxide, shooting them with a gun or a captive bolt pistol, or shocking them with electric current.

#### **4.1. Stunning:**

Stunning before slaughter should be mandatory. By inducing unconsciousness and insensibility, stunning can avoid and minimise reactions of fear and anxiety as well as pain, suffering and distress among the animals concerned. Stunning methods induce temporary loss of consciousness and rely on prompt and accurate sticking procedures to cause death.

It is important that the equipment utilized for stunning and slaughter is maintained in good working condition and that all operators involved are well trained and have a positive attitude towards the welfare of animals.

Electrical stunning consists of passing electricity through the brain to produce instantaneous insensibility.

The following method of slaughter shall be considered humane:-

(i) Mechanical stunning of cattle may be carried out by one of three methods; captive bolt stunning, mushroom head percussive stunning and pneumatic percussive stunning. For cattle, pneumatic stunning should be preferred and the optimum position is that the centre of the stunner should contact the animal at a point of intersection of lines drawn from the medial corners of the eyes and the base of the ears. The best position for pigs is on the midline just above eye level, with the host directed down the line of the spinal cord and the optimum position for sheep and goat is behind the poll, aiming towards the angle of the jaw. If an animal shows signs of regaining consciousness after the initial stun, the animal must be immediately killed by the use of a captive bolt gun.

(ii) Electrical stunning - Electrical Head Stunners may be preferred for sheep and goat where both electrodes are placed on the head region. Water bath electrical stunning may be used for poultry birds. A low and controlled voltage must be maintained so that the stunning will not damage the heart and brain or cause physical disability and death to the animals. The minimum current level recommended for stunning are indicated in the table below.

<b>Species</b>	<b>Minimum current levels for head-only stunning</b>
Cattle	1.5 Amps
Calves (bovines of less than 6 month of age)	1.0 Amps
Pigs	1.25 Amps
Sheep and goats	1.0 Amps
Lambs	0.7 Amps
Broilers	100 milli Amps
Turkeys	150 milli Amps

(iii) Gas stunning – Stunning of pigs by exposure to carbon dioxide (CO<sub>2</sub>) may be preferred. The concentration of CO<sub>2</sub> should be 90% by volume but shall not be less than 80% by volume and ideally pigs should be exposed for 3 minutes. Sticking should be done immediately after exit from the gas chamber. Over-crowding of animals should be avoided in the gas chamber.

## **5. Precautions for animal welfare:**

### **a. General:**

- (1) The floor of the slaughter area should not cause slipping or falling of animals.
- (2) Vocalization is an indicator of animal discomfort and need to be watched for.
- (3) Use of electric pods for moving animal should be discouraged. Movement of animals can be managed by grouping, use of plastic wrapped sticks etc.
- (4) Pen stocking density should be monitored. All animals should have room to lie down simultaneously. The condition of animals arriving for slaughter should be closely monitored so that injured, diseased animals are not slaughtered.
- (5) High pitch sounds such as whistling and yelling should be avoided to spare distress to animals.

**b. The following factors have been identified as critical to animal welfare:**

- a. supervision and training of employees.
- b. Designing of animal transport cart and unloading bay.
- c. Proper construction of holding/resting pen, stunning box, maintenance of stunning equipment, restraining systems, gates and other animal handling equipment.
- d. Avoiding distractions that make animals refuse to move.
- e. Monitoring the condition of animals arriving at the plant.
- f. Proper design of equipment in the slaughter house.

Keeping this in view, the following need to be observed to ensure humane treatment of animals brought for slaughter:-

- Pre-slaughter handling of animal should be carefully done to reduce stress. Resting of the animals is essential. Only animals which are disease free and in a condition to walk should be brought for slaughter.
- Distractions that impede animal movements such as, reflections, air blowing towards animals and movement or high pitch noise, need to be avoided. Herding of animals should not be done through electric prods but with the help of plastic bags or sticks.
- A high standard of training is required for employees to ensure that the basic hygiene and safety practices are followed while handling animals.
- Equipment which is used for slaughter such as captive bolt stunner, gates, hooks etc should be kept in good working condition and cleanliness of floors etc. needs to be ensured. There should be daily check to ensure the smooth working of equipment and cleanliness of floors.
- The condition of the animals arriving at the plant should be monitored. Animals which are injured or not in a condition to walk should not be slaughtered.
- Inspecting personnel should pay particular attention to these points to ensure reasonable standards of animal welfare.

## **6. Poultry welfare:**

### **Welfare programme**

The conditions under which broilers are housed and the way that they are managed during their growing phase, transportation and slaughter are set down in several government/industry endorsed Model Codes of Practice designed to safeguard their welfare.

A model welfare program needs to be developed for pick-up, transport and broiler/chicken processing sectors. Processing unit shall

incorporate elements of this welfare audit in their own quality plans & manuals.

A Model programme shall envisage following:

Poultry Suppliers and processors must have a documented program for poultry welfare envisaging following;

- a. Catching: Poultry intended for slaughter plant should be clean and in good health. Every reasonable precaution should be taken to minimize injury to poultry. The catcher needs to be trained to this effect.
- b. Transport: For transport of poultry crates shall be in good repair. There shall be no crate/cage damage that would allow injury to poultry or allow crates to accidentally open. Transport crates should not be over-filled and enough space should be provided to allow all poultry to lie down.
- c. Holding: Poultry held in storage sheds by should be provided adequate ventilation and climate control such as fans or curtains.
- d. Stunning: Stunning equipment should be maintained to confirm that poultry are insensible prior to slaughter, and the time between stunning and slaughter should be limited to minimize any likelihood that poultry may regain consciousness prior to slaughter.

**Economic performance and welfare:**

High standards of poultry welfare and high levels of flock performance and economic performance are not incompatible – quite the contrary, they go hand in hand. It simply makes good economic sense as well as being in the poultry's best interests to ensure that flocks are maintained in an environment, in which they are thermally



comfortable, protected from injury, fed optimally and kept healthy. Therefore, all measures described elsewhere to ensure that chickens are kept in conditions which optimize their comfort (in terms of temperature, humidity, air flow and air quality), in which they are provided with water, shelter, and a high quality diet that matches their physiological needs, and which optimize their health have just as important effect in terms of poultry welfare as they do on the overall efficiency of the farming operation.

### **Poultry health and welfare:**

When producing chicken meat in a welfare-friendly manner it is also important that the poultry receive prompt and appropriate medication and treatment to prevent and treat diseases if this should become necessary, and that they do not suffer any unnecessary pain, distress, fear or physical injury. It is also important that sick or injured poultry that cannot be adequately or successfully treated are culled quickly and in a humane manner so that they do not suffer.

### **Humane slaughter (poultry):**

While the chickens are reared specifically for human consumption and they therefore at some stage have to be slaughtered, they should be slaughtered in a humane manner, and all poultry are stunned (rendered insensible to pain) prior to slaughter.

Slaughter equipment at all supply facilities should be properly maintained to confirm that the poultry are slaughtered quickly.

## **7. Ante-mortem inspection**

- (1) All animals shall be rested before slaughter and shall be subjected to ante-mortem examination and inspection well in advance of the time of slaughter.
- (2) No animal which has been received into a slaughter hall for the purpose of being slaughtered shall be removed from the slaughter hall before being slaughtered except with the written consent of the Qualified Veterinary Doctor. An animal which, on inspection is found to be not fit for slaughter shall be marked as "suspect" and kept separately. Each such animal shall be marked as "suspect" only by or under the personal supervision of the Qualified Veterinary Doctor and the marking shall not be removed or obliterated except by the Qualified Veterinary Doctor himself.
- (3) An animal showing signs of any disease at the time of ante-mortem inspection that would cause its carcass being ultimately condemned on post-mortem shall be marked as "condemned" and rejected.
- (4) An animal declared as "suspect" on ante-mortem inspection but which does not plainly show any disease or condition that would cause its entire carcass to be condemned shall maintain its identity as "suspect" until its carcass and all organs are finally inspected by the Qualified Veterinary Doctor.
- (5) No animal in a febrile condition shall be permitted for slaughter. No suspect animal shall be slaughtered until all other animals intended for slaughter on the same day have been slaughtered. All animals which, on ante-mortem inspection, show symptoms of railroad sickness, parturient paresis, rabies, tetanus or any other communicable diseases shall be marked as "condemned" and disposed of in accordance with the provisions contained in sub paragraph (8) below.

- (6) Animals presented for slaughter and found in a dying condition on the premises of a factory due to recent disease shall be marked as "condemned" and disposed of as provided for "condemned" animals.
- (7) Every animal which, upon examination, is found to show symptoms of or is suspected of being diseased or animals declared as "suspect" shall at once be removed for treatment to such special pen and kept there for observation for such period as may be considered necessary to ascertain whether the animal is diseased or not.
- (8) All animals declared as "condemned" on ante-mortem inspection shall be marked as "condemned" and killed if not already dead. Such carcasses shall not be taken into the factory to be slaughtered or dressed, nor shall they be conveyed into any department of the factory used for edible products, but shall be disposed of in the manner as indicated in sub-paragraphs 12 to 15 of paragraph 24 for condemned carcasses.

#### **8. Post-mortem inspection-**

1. A careful and detailed post-mortem examination and inspection of the carcasses and parts thereof of all animals slaughtered shall be made soon after slaughter. All organs and parts of the carcasses and blood to be used in the preparation of meat food products shall be held in such a manner as to preserve their identity till the completion of the post-mortem inspection so that they can be identified in the event of the carcasses being condemned.
2. Every carcass including all detached parts and organs thereof which show evidence of any condition which will render the meat or any part

or organ unfit for human consumption and which for that reasons may require subsequent inspection, shall be retained by the Qualified Veterinary Doctor. The identity of such carcass including the detached parts and organs thereof shall be maintained until the final inspection is completed. Retained carcasses, detached parts and organs thereof shall be maintained until the final inspection is completed. Retained carcasses, detached parts and organs thereof shall in no case be washed, trimmed or mutilated in any manner unless otherwise authorized by the Qualified Veterinary Doctor.

3. No air shall be blown by mouth into the tissues of any carcass or part of a carcass.

4. Every carcass or part thereof which has been found to be unfit for human consumption shall be marked by the Qualified Veterinary Doctor as "Inspected and condemned".

5. All such condemned carcasses, parts and organs thereof shall remain in the custody of the Qualified Veterinary Doctor pending disposal at or before the close of the day on which they are marked "Inspected and condemned" in accordance with sub-paragraphs (11),(12) and (13) below.

6. Carcasses, parts and the organs thereof found to be sound, wholesome, healthful and fit for human consumption shall be marked as "Inspected and passed".

7. Carcasses found affected with anthrax before evisceration shall not be eviscerated but condemned and disposed of immediately in accordance with sub-paragraph (12) below. Any part of a carcass

contaminated with anthrax infected material through contact with soiled instruments or otherwise shall be immediately condemned and disposed of as provided in sub-paragraph (12) below.

8. The portion of the slaughtering department including equipment, employees' boots and aprons, etc., contaminated by contact with anthrax material shall be cleaned and thoroughly disinfected immediately.

9. When on inspection only a portion of a carcass on account of slight bruises is decided to be condemned, either the bruised portion shall be removed immediately and disposed of in accordance with sub-paragraph (13) below or the carcass shall be retained and kept till such time it is chilled and the bruised portion removed and disposed of as provided above.

10. Post-mortem inspection shall be a detailed one and shall cover all parts of the carcass, the viscera, lymph glands and all organs and glands.

11. The post-mortem inspection shall be in accordance with the general rules laid down for such inspection in public slaughter houses under the control of local bodies besides special instructions that may be issued from time to time by the licensing authority.

12. All condemned carcasses, organs or parts thereof shall be completely destroyed in the presence of the Qualified Veterinary Doctor by incineration or denatured, after being slashed freely with a knife, with crude carbolic acid, cresylic- disinfectant or any other prescribed agent unless such carcasses, organs or parts thereof are sterilized for

the preparation of bone-cum-meat meal before leaving the slaughter house premises, subject to sub-paragraph (13) below.

13. Carcasses, organs or parts thereof condemned on account of anthrax shall be disposed of either by (i) complete incineration or (ii) thorough denaturing with prescribed denaturant in the manner prescribed in the foregoing paragraphs and also in accordance with the rules and regulations prescribed by the local authority.

14. Destruction of condemned carcasses, organs or parts thereof shall be carried out under the direct supervision of the Qualified Veterinary Doctor.

15. If in the opinion of the Qualified Veterinary Doctor a carcass, organ or part thereof is to be held back for further detailed examination the carcass, organ or part concerned shall not be released till the examination in detail is completed by the Qualified Veterinary Doctor and it is declared thereafter by him as fit. When it is to be detained for detailed examination, the carcass, organ or part thereof shall be marked as "Held". If on subsequent inspection, the carcass, organ or part thereof is found to be unwholesome and unfit for human food, the Qualified Veterinary Doctor shall mark such a carcass, organ or part thereof as "condemned" and shall dispose it as described in the foregoing paragraphs.

**a. Sanitary and Hygienic Requirements for Meat processing units**

Following Sanitary and Hygienic requirements shall be satisfied in the meat processing unit.

## **1. Location:**

1.1 Meat processing unit should be located in areas not subjected to regular and frequent flooding and free from objectionable odours, smoke dust and other contaminants;

1.2 Roadways and areas serving the meat processing unit which are within its boundaries or in its immediate vicinity should have a hard paved surface suitable for wheeled traffic. There should be adequate drainage and provision for cleaning;

1.3 Where appropriate meat processing unit should be so designed that access can be controlled.

## **2. Building and Facilities:**

2.1 The meat processing unit should provide adequate working space for the satisfactory performance of all operations.

2.2 The construction should be sound and ensure adequate ventilation, good natural or artificial lighting and easy cleaning.

2.3 The meat processing unit should be laid out and equipped so as to facilitate proper supervision of meat hygiene including performance of inspection and control;

2.4 The meat processing unit should be of such construction as to protect against the entrance and harbouring of insects, birds, rodents or other vermin as well as the entry of environmental contaminants such as smoke, dust etc.

2.5 Buildings and facilities should be designed to provide separation by partition, location or other effective means, between those operations which may cause cross-contamination;

2.6 Meat processing unit should be laid out and equipped so as to ensure, that edible meat does not come into contact with floors, walls or other fixed structures, except those which are specifically designed for contact with meat;

2.7 The construction and lay out of any chilling room, freezing room, freezer store or freezer should satisfy the requirements of these rules;

2.8 In meat handling areas :

— Floors should be of waterproof, non-absorbent, washable non-slippery and nontoxic materials, without crevices and should be easy to clean and slope sufficiently for liquids to drain to trapped outlets;

— Walls should be of waterproof, non-absorbent, washable and nontoxic materials and should be light coloured. Up to a height of at least 1.5 metres,

they should be smooth and without crevices, and should be easy to clean and walls and floors and between walls and ceilings should be sealed and covered to facilitate cleaning;



- Ceilings should be so designed, constructed and finished as to prevent any accumulation of dirt and minimize condensation, mould development and flaking and should be easy to clean;
- Windows and other openings should be so constructed as to avoid accumulation of dirt and those which open should be fitted with insect screen. Screens should be easily movable for cleaning and kept in good repair. Internal window sills, if present, should be sloped to prevent use as shelves;
- Doors should have smooth, non-absorbent surfaces and where appropriate, be self-closing and close fitting; and
- Stairs lift cages and auxiliary structures such as platforms, ladders, chutes, should be so situated and constructed as not to cause contamination of meat. They should be capable of being effectively cleaned. Chutes should be constructed with inspection and cleaning hatches;

2.9 The use of construction materials which cannot be adequately cleaned and disinfected such as wood, should be avoided unless its use would clearly not be a source of contamination, and

2.10 Office accommodation should be provided for the use of the meat inspection agency.

### **3. Sanitary Facilities:**

3.1 Water Supply:

3.1.1. An ample supply of potable water under pressure should be available with facilities for its storage, where necessary for distribution, and with protection against contamination;

3.1.2. An supply of hot potable water should be available at all times during working hours;

Note – This provision is intended to cover water for both cleaning purposes and the destruction of microorganisms (especially those pathogenic to man) on knives, utensils etc., and coming into direct contact with meat. For cleaning purposes the temperature of the water should be 65 degree Celsius. The hot water for disinfection purposes should be at 82 degree Celsius and dispensed in such a way (e.g. in specially designed boxes near the working area) that blades of knives etc., can be submerged in the water for an contact time (no less than two minutes). Often this water supply is separate from other hot water supplies used for cleaning, hand washing etc. But if there is only one hot water supply the term “adequate” should mean that even at times where large amounts of hot water is used (e.g. during cleaning operations) the water supply from any tap in the establishment should not be decreased;

3.1.3 Ice should be made from potable water and should be manufactured, handled and stored so as to protect it from contamination; and

3.1.4 Steam used in contact directly with meat should be produced from potable water and contain no substances which may be hazardous to health or may contaminate the food.

3.2 Effluent and Waste Disposal – Meat processing unit should have an efficient effluent and waste disposal system. All effluent lines (including sewer systems) should be large enough to carry peak loads and should be constructed in such a manner as to avoid contamination of potable water supplies. Biological oxygen demand level shall be less than 1500, and for that an effluent treatment plant, if necessary may be installed.

3.3 Facilities for Storage of Waste and Inedible Material. – Facilities should be provided for the storage of waste and inedible material prior to removal from the establishment. These facilities should be designed to prevent access to waste or inedible material by pests and to avoid contamination of food, potable water and equipment or building.

3.4 Changing Facilities and Toilets.- suitable and conveniently located changing facilities and toilets should be provided in all establishments. Toilets should be so designed as to ensure hygienic removal of waste matter. These areas should be well lit and ventilated and should not open directly on to food handling areas. Hand washing facilities with warm or hot and cold water with suitable hygienic means of drying hands should be provided adjacent to toilets and in such a position that the employee must pass them when returning to the processing area. Where hot and cold water are available mixing, taps should be provided. Where paper towels are used, a sufficient number of dispensers and receptacles should be provided near to each washing facility. Taps of non-hand operable type are preferable. Notices should

be posted directing personnel to wash their hands after using the toilets.

### 3.5. Hand Washing Facilities in Processing Areas:

3.5.1 Adequate and conveniently located facilities for hand washing and drying should be provided wherever the process demands. Where appropriate, facilities for hand disinfection should be provided. The facilities should be furnished with properly trapped waste pipes leading to drains.

3.5.2 All rooms used for deboning, preparing, packing or other handling of meat should be equipped with adequate facilities for cleaning and disinfecting implements, conveniently located for the use of personnel during operations. These facilities are for use exclusively in the cleaning and disinfection of knives, steels, cleavers, saws and other implements.

3.5.3 All facilities for cleaning and disinfecting implements should be of such nature and sizes as to permit proper cleaning and disinfection of implements . These facilities should be constructed of corrosion – resistant materials and should be capable of being easily cleaned.

3.5.4 All facilities for cleaning and disinfecting of implements should be fitted with suitable means of supplying hot water in sufficient quantity at all times while meat is being handled in that part of the Meat Processing Unit.

3.5.5 Lighting – Adequate natural or artificial lighting should be provided throughout the meat processing unit. Where appropriate, the lighting should not alter colours and the intensity should not be less than

540 Lux (50 foot candles) at all inspection points.

220 Lux (20 foot candles) in work rooms.

110 Lux (10 foot candles) in other areas.

Light bulbs and fixtures suspended over meat in any stage of production should be of a safety type and protected to prevent contamination of meat in case of breakage.

3.6 Ventilation –ventilation should be provided to prevent excessive heat, steam condensation, dust and to remove contaminated air. The direction of the air flow should never be from a dirty area to clean area. Ventilation openings should be provided with an insect screen or other protective enclosure of non-corrodible material. Screens should be easily removable for cleaning.

#### **4. Equipment and Utensils :**

4.1 Materials – All equipments, implements and utensils used in establishments which come into contact with exposed meat and meat products should present a smooth impervious surface and be resistant to corrosion and should be made of material which is non-toxic, does not transmit odour or taste, is free from pits and crevices, is non-

absorbent and capable of withstanding repeated exposure to normal cleaning and disinfection. Such equipment should be so constructed that they may be easily cleaned.

#### 4.2 Sanitary Design, Construction and Installation:

4.2.1 All equipments and utensils should be so designed and constructed as to prevent hygienic hazards and permits easy and thorough cleaning and disinfection and where practicable be visible for inspection. Stationary equipment should be installed in such a manner as to permit easy access and thorough cleaning.

4.2.2 Containers for inedible material and waste should be leak proof, constructed of non-corrosive metal or other suitable impervious materials which should be easy to clean or disposable and where appropriate, able to be closed securely; and

4.2.3 All refrigerated spaces should be equipped with temperature measurement or recording devices.

4.3 Equipment Identification – Equipment and utensils used for inedible material or waste should be so identified and should not be used for edible products.

### **5. Hygiene Requirements :**

5.1 Maintenance. The buildings, rooms, equipment and all other physical facilities of the meat processing unit, including drains, should be maintained in good repair and in orderly condition. Except for

rooms where meat processing or cleaning operations are performed, they should be free from steam, vapour and surplus water.

5.2 Cleaning and Disinfection – Cleaning and disinfection should meet the following requirements :

(i) Amenities provided for the use of employee and the inspection service including changing facilities, toilets and the inspection office space should be kept clean at all times.

(ii) If rooms, intended and most of the time used for the handling, preparation, processing, packaging on storage of meat, are used for any other food preparation purposes, then cleaning and disinfection are necessary immediately before and after such use.

(iii) The temperature in rooms for boning out and trimming should be controlled and held suitably low, unless cleaning of equipment and utensils are carried out at least every four hours;

(iv) To prevent contamination of meat, all equipments, implements, tables, utensils including knives, cleaves, knife pouches, saws, mechanical instruments and containers should be cleaned at frequent intervals during the day and immediately cleaned and disinfected whenever they come into contact with diseased material, infective material or otherwise become contaminated. They shall also be cleaned and disinfected at the conclusion of each working day.

(v) If any skip or trolley or any container used in a department where edible material is handled, enters an area where inedible material is

handled it should be cleaned and disinfected immediately before re-entering the edible department.

(vi) Immediately after the cessation of work for the day or at such other times as may be required, the floors and walls should be cleaned to remove contamination. Floor drains should be kept in good condition and repair with strainers in place; and

(vii) Roadways and yards in the immediate vicinity of and serving the meat processing unit should be kept clean.

5.3 Hygiene Control Programme.-It is desirable that each meat processing unit in its own interest designates a single individual whose duties are diverted from production, to be held responsible for the cleanliness of the meat processing unit. His staff should be a permanent part of the organisation or employed by the organisation and should be well trained in the use of special cleaning tools, methods of dismantling the equipment for cleaning and in the significance of contamination and the hazards involved. A permanent cleaning and disinfection schedule should be drawn up to ensure that all parts of the meat processing unit are cleaned appropriately and that critical areas, equipment and material are designed for cleaning and/or disinfection daily or more frequently if required.

5.4 Storage and Disposal of Waste – Waste material should be handled in such a manner so as to exclude contamination of food or potable water. Precautions should be taken to prevent access to waste by pest. Waste should be removed from the meat handling and other working areas at intervals and at least daily. Immediately after



disposal of the waste, receptacles used for storage and any equipment which has come into contact with the waste should be cleaned and disinfected. At least daily the waste storage area should also be cleaned and disinfected.

5.5 Entry of dogs, cats or other pet animals is not allowed to enter meat processing unit.

## **6. Pest Control**

6.1 There should be an effective and continuous programme for the control of insects, birds, rodents or other vermin. Meat processing unit and surrounding areas should be regularly examined for evidence of infestation.

6.2 Should pests gain entrance to the meat processing unit or surrounding areas, eradication measures should be instituted. Control measures involving treatment with physical or chemical or biological agents should only be undertaken by or under direct supervision of personnel who have a thorough understanding of the potential hazards to health resulting from the use of these agents, including those which may arise from residues retained in the product. Such measures should be carried out in accordance with the recommendation of the official agency having jurisdiction and with the full knowledge of its inspector, and

6.3 Pesticides should only be employed if other precautionary methods cannot be used effectively. Only pesticides approved for use in the meat processing unit by competent authority should be used and the greatest care should be exercised to prevent any contamination of the

meat equipment or utensils. Before pesticides are applied all meat should be removed from the room and all equipment and utensils should be thoroughly washed prior to being used again.

6.5 Handling and Storage of Hazardous substances – Pesticides or other substance which may represent a hazard should be labelled with a warning about their toxicity and use. Except as required for purpose of hygiene such substance which may contaminate meat packing material and ingredients should be handled and stored in a part of the meat processing unit which is not used for preparation, processing, handling, packing or storage of meat. They should be handled and dispensed only by authorised and properly trained personnel. Extreme care should be taken to avoid contamination of meat. However, materials employed in the construction and maintenance of an establishment may be used at any time with the approval of an inspector.

6.6 Personal Effects and Clothing : - Personal effects and clothing should not be deposited in meat handling areas.

6.7 Maintenance Tools – Cleaning and maintenance tools and products should not be stored in meat handling area.

## **7. Personnel Hygiene and Health Requirements :**

7.1 Medical examination – Persons who come into contact with meat in the course of their work should have a medical examination prior to their employment. Medical examination of a meat handler shall be carried out routinely and when clinically or epidemiologically indicated, at least once in 12 months.

- 7.2 Communicable Diseases – The management should take care to ensure that no person, while known or suspected to be suffering from, or to be a carrier of a disease likely to be transmitted through meat or while afflicted with infected wounds, skin infections, sores or with diarrhoea, is permitted to work in any area in any capacity in which there is any likelihood of such a person directly or indirectly contaminating meat with pathogenic microorganisms. Any person so affected should immediately report to the management that he is ill.
- 7.3 Injuries – Any person who is cut or injured should discontinue working with meat and until he is suitably bandaged should not be engaged in any meat processing unit in the preparation, handling, packing or transportation of meat. No person working in any meat processing unit should wear exposed bandage unless the bandage is completely protected by a water proof covering which is conspicuous in colour and is of such a nature that it cannot become accidentally detached. first aid facilities should be provided for this purpose.
- 7.4 Washing of Hands : Every person engaged in a meat handling area should wash his hands frequently and thoroughly with a suitable hand cleaning preparation under running potable water while on duty. Hands should always be washed before commencing work, immediately after using the toilets, after handling contaminated material and whenever else necessary. After handling diseased or suspect materials hands should be washed and disinfected immediately. Notices requiring hand-washing should be displayed.

## **8. Personnel Cleanliness:**

8.1 Every person engaged in an area in meat processing unit where meat is handled should maintain a high degree of personnel cleanliness while on duty, and should at all times while so engaged wear suitable protective clothing including head covering and foot wear, all of which should be washed unless designed to be disposed and which should be maintained in a clean condition consistent with the nature of the work in which the person is engaged.

8.2 Aprons and similar items should not be washed on the floor; and

8.3 Such items should not be left on equipment in the working area.

8.4 Personal Behavior : Any behavior which can potentially contaminate the meat such as eating, use of tobacco, chewing, spitting, should be prohibited in any part of meat processing unit used for the preparation, handling, packaging or transportation of meat.

8.5 Visitors: Every person who visits an area in any meat processing unit where meat is handled should wear clean protective clothing and head cover.

### **b. Sanitary & Hygienic Requirements for the Retail Meat Shops**

For ensuring the hygiene and safety of meat being sold at retail meat shops, the following requirements should be followed under the supervision of the qualified Veterinary staff..

#### **1. Location of Meat Shop**

1. The meat shop / sale outlet should be a unit of meat market located away from Vegetable, fish or other food markets and shall be free from undesirable odour, smoke, dust or other contaminants. Wherever a meat markets is not available, individual meat shop can be set up considering the above factors, which have a direct bearing on the hygiene conditions of the premises and health of consumers.
  - (a) The minimum distance between the licensed meat shop and any place of worship should not be less than 50 meters;
  - (b) The condition of 100 meters distance will apply in case the premises situated directly opposite to the entry gate of religious place of any community.
2. All the meat shops located in the vicinity of religious places shall be fitted with black glass doors, which must be kept, closed all times except in case of entry or exit. It must be the responsibility of the meat shop owners to maintain a high standard of hygiene not only inside the shops, but also in the way leading to the shops road pavements or other adjoining place, particularly for insanitary materials originating from the meat business for example, blood, part of offal, meat scraps

## **2. Size of Meat Shops**

Considering the constraints of commercial space in residential areas in concerned Panchayats / Municipalities the size of meat shops may vary according to the size of business and activities being carried out there

in the meat shops. However it will be desirable that shops are less than 4 sq m of floor area

2.2 The height of shop in all above categories of meat shops should be not less than 3 meters, while in case of air-conditioned meat shops, it should not be less than 2.5 meters.

### **3. Premises**

3.01 The premises shall be structurally sound. The walls up to the height of minimum 5 feet from the floor level shall be made of impervious concrete material (e.g. glazed tiles or hygienic panels, etc.) for easy washing and cleaning purposes.

3.02 The floor should be made of impervious and non-slippery materials with a slope for easy cleaning and removal of filth, waste and dirty water. The slope of the floor shall not be less than 5 cm. for a floor of 3 meters.

3.03 All the fittings in the stall should be of non-corroding and non-rusting type.

3.04 All processing tables, racks, shelves, boards, etc. shall have zinc/aluminium/stainless steel/marble-granite to of facilitate proper cleaning.

3.05 A sign board indicating the type of meat sold shall be displayed prominently. Nothing else but meat should be sold at the premises.

3.06 The premises should have provision of sewer connection for drainage of wastewater.

3.07 There should be provision of continuous supply of potable water inside the premises. In case the water supply is from bore well the arrangement for softening of water for making the same potable shall be made in the premises and intermittent store arrangement should be made.

3.08 The door of the shop should be of self-closing type, and the sale counter should have a provision for small window with wire glass sliding. The door of the shop should be of dark glass top and be kept closed. No carcasses should be kept in a manner so as to be seen by the public view from outside.

#### **4. Ventilation**

4.01 The meat shop should be ventilated with facility of cross ventilation and may be provided with at-least one electric fan and one exhaust fan.

4.02 The rails and hanging hooks, if provided for hanging carcasses, should be of non-corrosive metal. The non-corrosive hanging hooks for carcasses shall be 30 cm. apart and the distance between rails shall be 60 to 70 cm. depending upon the size of animals slaughtered and carcasses hanged.

#### **5. Equipment and Accessories**

5.01 The meat shop should have suitable arrangement for **fly proofing** in the form of air-curtains, flytraps, etc.

5.02 It should have display cabinet type **refrigerator** of size for maintaining a temperature of 4 to 8 degrees C. or freezing cabinet if the meat is to be stored for more than 48 hours.

5.03 The **weighing scales** used shall be of a type which obviates unnecessary handling and contamination and the sketch of the scale shall be made of stainless steel or nickel coated.

5.04 The **knives, tools and hooks** used shall be made of stainless steel. Sufficient cupboards or racks should be for storing knives, hooks, clothes and other equipments.

5.05 There should be a provision of **geysers** in all the meat shops to have hot water at a temperature not less than 82 degree C to clean the premises and equipment used in meat shop.

5.06 **Washbasin** made of stainless steel / porcelain shall be provided with liquid soap dispenser or other soap and nail brush for thorough cleaning of hands.

5.07 The **chopping block** should be of food-grade synthetic material, which does not contaminate the meat. If the block is of wooden it should be of hardwood trunk, which is solid enough and should not contaminate the meat.



5.08 A **waste bin** with a pedal operated cover shall be provided in the premises for collection of waste material.

## **6. Transportation**

6.01 The transportation of carcasses from the slaughter house to the premises shall be done under hygienic conditions in boxes of adequate size linked with zinc/aluminium/stainless steel or wire gauze meat safes, which must be washed daily.

6.02 The transportation of carcasses from the slaughter house to the meat shops should be done in insulated vans refrigerated. Under no circumstances, carcasses will be transported in vehicles used for commuting of human beings, or in an exposed condition.

## **7. Pest Control**

7.01 The meat shop should have an effective and continuous programme for control of insects, rodents or other vermin within the premises. The surrounding area of the shop should also be free from insects, birds, rodents and other vermin.

7.02 The pest control measures adopted by the owner of shop should be kept as a record in the premises to be shown to any officer of the concerned Panchayats / Municipalities responsible for local administration/Corporation at the time of inspection.

7.03 Chlorinated hydrocarbons, organo-phosphorus compounds and synthetic perithroids, rodenticides etc should neither be used as pesticide nor shall be stored at the meat shop.

7.04 No live animals or birds should be allowed inside or adjacent to the meat shops.

## **8. Personnel Hygiene**

8.01. Every person employed for meat handling at the meat shop shall be medically examined annually by a authorized registered medical practitioner and examination shall include examination of sputum and x-ray of the chest for tuberculosis. The medical examination shall also include examination of stool for protozoal and helminthic infestations for those parasites, which are transmitted by ingestion, and also for the presence of enteropathogenic Escherichia coli, Salmonella, Shigella species and Vibrio cholera.

8.02. A certificate / records of medical fitness of all workers handling meat should be kept as a record in the premises to be shown to any officer of the concerned Panchayats / Municipalities responsible for local administration / Corporation at the time of inspection.

8.03. No worker suspected to be suffering from fever, vomiting, diarrhoea, typhoid, dysentery or boils, cuts and sores and ulcers (however small) shall be permitted to work in the meat shops.

8.04 All the workers of the meat shop shall keep their finger nails short and clean and wash their hands with soap or detergent and hot water

before commencement of work and after each absence, especially after using sanitary conveniences.

8.05. Eating, spitting, nose cleaning or the use of tobacco in any form or chewing betel leaves shall be prohibited within the premises of meat shop processing, packing and storage area of the unit. "No smoking" and "No Spitting" boards shall be prominently displayed in the shop.

## **9. Sanitary Practices**

9.01 The chopping block should be sanitized daily by covering its top with sea-salt, after cleaning it with hot water at close of business activity.

9.02 The floor should be washed with appropriate disinfectant / detergent / sanitizer at the start and close of the business each working day.

9.03 There should be high standard of cleanliness and tidiness in the working area of shop with no organic or other material lying on the floor.

9.04 The refrigerated / freezing cabinet should be regularly cleaned and well maintained.

9.05 Slaughtering of animal / birds inside the shop premises should be strictly prohibited.

9.06 The carcasses shall not be allowed to be covered with wet-clothes.

9.07 Wholesome meat obtained from the authorized slaughter house shall only be sold at the meat shops and a record thereof shall be kept in the premises to be shown to any officer of the concerned Panchayats / Municipalities responsible for local administration Corporation at the time of inspection.

9.08 Waste bins should be emptied, transported for disposal as per the arrangements made by the concerned Panchayats / Municipalities and waste bin / dhalau ( burial pits) shall be treated daily with a disinfectant.

9.09 The premises shall not be used for residential purposes nor it shall communicate with any residential quarter. No personal belonging like clothing, bedding, shoes etc. shall be kept in the premises. Only dressed carcasses of clean meat shall be stored at the premises.

9.10 Hides, skins, hoofs, heads and unclean gut will not be allowed to be stored in the premises at any time.

9.11 The chopping instruments should be cleaned with hot water at a temperature of 82 degree C.

9.12 The preparation of food of any type inside the meat sale outlet should be strictly prohibited.

9.13 The meat obtained from unauthorized sources or unstamped meat is liable to be confiscated and destroyed.

9.14 Waste of the meat shop to be disposed of packed in heavy polythene bags in dhalaos (burial pits).

## **10. Other Requirements**

10.01 The prepared meat shall be packed in waxed paper and then placed in polyethylene bags or packed directly in bags made of food grade plastics.

10.02 Failure to comply with any of these instructions may entail legal action against the defaulters, and even result in cancellation of licence by the appropriate authority of the concerned Panchayats/Municipalities/Corporation.

10.03 No Objection Certificate from law and order point of view to be obtained from police department or the concerned Panchayats/Municipalities/Corporation before grant of license for buffalo meat and pork shop.

10.04 The concerned Panchayats/Municipalities responsible for local administration in the country shall appoint qualified Veterinary staff for the meat inspection (Ante mortem and Post mortem inspection) or if regular staff cannot be made available or deployed for the purpose shall make contractual arrangements for availing the services of qualified Veterinary staff for meat inspection available with the Animal Husbandry Depts. of the concerned state/UT in the country.

10.05 Veterinary health trade licence shall be granted subject to fulfillment of all the above technical and administrative instructions in relation to the trade.

## **Part - V**

### **Specific Hygienic and Sanitary Practices to be followed by Practices to be followed by Food Business Operators engaged in catering / food service establishments**

In addition to Part-2 the Catering/ food Service establishment in which food is being handled, processed, manufactured, stored, distributed and ultimately sold to the customers and the persons handling them should conform to the sanitary and hygienic requirement, food safety measures and other standard as specified below.

It includes premises where public is admitted for repose or for consumption of any food or drink or any place where cooked food is sold or prepared for sale. It includes:

- a) Eating Houses
- b) Restaurants & Hotels
- c) Snack Bars,
- d) Canteens (Schools, Colleges, Office, Institutions)
- e) Food Service at religious places
- f) Neighbourhood Tiffin Services / dabba walas

#### **I. GOOD MANUFACTURING PRACTICES FOR WHOLE PREMISES**

##### **I. FOOD PREPARATION AREAS**

The following rules apply to rooms where food is prepared. There will be no smoke nuisance in the food preparation area. Wherever cooking or frying of any kind is being done, a chimney having appropriate suction

capacity as per the size of the kitchen has to be installed prior to start of business.

## **II . Hand washing facilities and toilets**

1. Adequate number of wash-hand basins made of porcelain/stainless steel shall be provided along with soap to wash hands, with hot and cold running water, and materials for cleaning hands and drying them hygienically. Clean and dry towels shall be kept for the use of customers.
2. Separate sinks must be provided, where necessary, for washing raw food and cleaning equipment.
3. Sinks with a draining board, detergent and hot water shall be provided to ensure proper cleaning of utensils, crockery and cutlery there will be a separate place for washing pots and pans.
4. There must also be enough toilets and those must not lead directly into food areas.
5. There shall be separate Sinks for washing utensils and raw food items

### **2. Changing facilities:**

Facilities for staff to change their clothes, where necessary must be provided.

## **II. GOOD FOOD HYGIENE PRACTICES**

### **1. Cleaning**

- Food areas and equipment between different tasks, especially after handling raw food shall be cleaned.



- The surface shall be thoroughly cleaned in case if somebody spill some food / water / drink.
- A systematic cleaning schedule and instructions has to be developed by the FBO.
- Food handlers should strictly follow the systematic cleaning schedule to make sure that surfaces and equipment are cleaned when they need to be.

The schedule should include:

- what needs to be cleaned
- how often it needs to be cleaned
- how the cleaning should be done

Cleaning instructions should indicate:

- what cleaning products should be used
- how the products should be stored ( away from raw, cooked, packed food) and used
- how much they should be used or diluted
- how long that should be left in contact with the surface (following the manufacturer's instructions)

## **2. Raw materials**

1. Raw materials shall be purchased from reliable and known dealers and checked for visible deterioration & off- odour.
2. Food ingredients shall be segregated from materials which are evidently unfit for human consumption.
3. There should be no physical hazards and foreign body contamination.

- 4) All raw materials should be checked & cleaned physically as well as in potable water thoroughly.
- 5) Raw materials should be purchased in quantities that correspond to storage/ preservation capacity.
- 6) Packaged raw material must be checked for 'expiry date'/ 'best before'/ 'use by' date, packaging integrity and storage conditions.
- 7) Receiving temperature of potentially high risk food should be at or below 5 °C.
- 8) Receiving temperature of frozen food should be -18 °C or below
- 9) Raw paste, sauces etc. should be stored in properly covered containers made of food grade material and checked regularly for fungal growth, deterioration etc.

**Preparation of fruits/ vegetables:**

- 1) Fruits and vegetables that have been protected from cross-contamination and properly conserved should be used.
- 2) Fruits and vegetables should be used after removing parts or items in poor condition.
- 3) Whole fruits and vegetables should be washed in potable water before being cut, mixed with other ingredients. Uncooked, ready-to-eat fruits & vegetables should be with 50 ppm chlorinated water before cutting, peeling or serving.
- 4) Fruits and vegetables should be peeled, squeezed and/or cut, as appropriate, with clean equipment/ utensils made of non-absorbent food grade materials.
- 5) Previously prepared fruits/vegetables should be kept in clean and properly covered food grade containers under refrigeration or at a maximum temperature suitable for the product in question.

### **Preparation of Non-veg. Products:-**

- 1) Raw meat and processed meat should be separated from other foods; items and surfaces.
- 2) Separate items (e.g. cutting boards, dishes, knives) and preparation area for raw meats and poultry and marine products should be used to avoid cross contamination of food.
- 3) Hands should be thoroughly washed before switching from preparing raw meat or poultry or marine products to any other activity.
- 4) Ensure proper cooking of all non veg. products.
- 5) Used surfaces should be washed with antibacterial cleaning agent, rinsed properly with water and sanitized after preparing raw meat/poultry.
- 6) Ensure that frozen products are thawed as per point no. 10 under high risk foods

### **3. Cooking**

- a) The preparation/ processing/ cooking should be adequate to eliminate and reduce hazards to an acceptable level which might have been introduced at the raw food level.
- b) The preparation/ processing/ cooking methods should ensure that the foods are not re- contaminated.
- c) The preparation/ processing/ cooking of veg. & non-veg. products should be segregated.
- d) Food should not be overcooked (e.g. charring) leading to chemical hazards.
- e) Whenever cooking or reheating of food is done, it should be hot all the way through. It is especially important to make sure that food

is cooked thoroughly because there could be bacteria in the middle of food.

f) Re-use of cooking oil should be avoided

#### **4. Chilling**

- Semi cooked or cooked dishes and other ready-to-eat foods such as prepared salads and desserts having short shelf life should not be left standing around at room temperature.
- Chilled food on delivery should be cold enough.
- Food items that need to be chilled should be put straight away into the fridge.
- Cooked food should be cooled as quickly as possible and then put it in the fridge.
- Chilled food should not be kept out of the fridge except for the shortest time possible during preparation.
- Fridge and display units should be cold enough and as per requirement.
- In practice, fridge should be set at 5°C to make sure that food is kept in chilled condition. Also, fridge and display units should be maintained in good working condition to avoid food spoilage and contamination.

#### **4. Cross-contamination**

Following things should be done to avoid cross - contamination.

- Raw food/ meat/poultry and ready-to-eat foods should be kept separate at all times.
- Hands should be thoroughly washed after touching raw meat/poultry.

- Work surfaces, chopping boards and equipments should be thoroughly cleaned before the preparing of food starts and after it has been used
- Separate chopping boards and knives for raw fruit/ vegetables/ meat/poultry and ready-to-eat food should be used.
- Raw meat/poultry below ready-to-eat food should be kept in the fridge.
- Separate fridge for raw meat/poultry should be kept.
- Staff should be made aware how to avoid cross-contamination.

### **III. PERSONAL HYGIENE**

1. High standards of personal hygiene should be maintained.
2. All employees handling food should wash their hands properly:
  - before preparing food
  - after touching raw food or materials, specially meat/poultry or eggs
  - after breaks
  - after using the toilet
  - after cleaning the raw materials or utensils / equipments
3. Staff working with food must wear suitable clean clothes and where necessary, shall wear head cover, apron, musk mouth and use gloves etc.
4. Street shoes inside the food preparation area should not be worn while handling & preparing food.
5. Food handlers should ensure careful food handling & protect food from environmental exposure.
6. Food handlers should avoid following practices while handling food:

- Chewing or smoking tobacco
- Chewing betel nut or gums
- Touching mouth, tongue, nose, eyes or other body parts
- Spitting, sneezing, coughing, etc.
- Touching ready-to-eat food with bare hands
- Handling food and money at same time
- not to wear watches or jewellery while preparing food

7. All food handlers should be medically fit and free from diseases.

#### **IV. TRANSPORTATION & HANDLING OF FOOD**

- 1) The vehicle/transportation being used to carry cooked/prepared/processed food should be clean, should be dedicated for this purpose and should not carry anything else.
- 2) Time required for transportation should be minimum, to avoid microbial proliferation.
- 3) Cooked food served hot should be kept at a temperature of at least 60<sup>0</sup> C to prevent microbial growth.
- 4) Cooked food to be served cold should be kept below 5<sup>0</sup> C to prevent growth of pathogens. Otherwise time of holding should be limited.
- 5) All foods during transportation must be kept covered and in such a way as to limit pathogen growth or toxin formation by controlling time of transportation, exposure, temperature control and using safe water for cleaning etc.
- 7) Handling of food should be minimal. It should be ensured that utensils, crockery, cutlery and specially hands of the food handlers/seller are clean and sanitized.
- 8) All surplus food and unused thawed food should be discarded.

9) Food to be kept for cold storage should be distributed in small volumes to ensure uniform cooling.

10) It is recommended that even dry, fermented and acidified foods should be stored in a cool and dry place.

11) All packaged food viz. sterilized milk, bottled beverages; canned foods should be stored properly during transportation to ensure that seals remain intact and undamaged.

## **V. STORAGE**

1. It is very important to store food properly for the purpose of food safety. Following things must be ensured:

- Foods should be cooked, stored and kept at right temperature
- Raw meat/poultry should be stored separately from other foods
- Veg. foods should always be stored above non-veg. foods and cooked foods above uncooked foods on separate racks in the refrigerator.
- Food after the 'use by' date should never be used, because it might not be safe to eat.
- Storage temperature of frozen food should be  $-18^{\circ}\text{C}$  or below.
- Storage temperature of potentially high risk food should be at or below  $5^{\circ}\text{C}$ .
- Cooked food to be eaten later should be cooled quickly, and kept it in the fridge – it can be practiced to put date on food packages or containers, using stickers or any other way of identification, before keeping inside the fridge to keep track of food prepared date wise and use accordingly to minimise wastage.
- Food with short shelf-life should be use first

- Storage instructions over food packaging should be followed.
- Dried foods (such as grains and pulses) should be stored off the floor, ideally in sealable containers, to allow proper cleaning and protection from pests.

### **Stock rotation**

The rule is FIFO (first in, first out) to make sure that older food is used first. This will help to prevent wastage.

## **VI. SPECIAL REQUIREMENTS FOR HIGH RISK FOODS**

This section deals selectively with few varieties of food which are high risk as per HACCP and may need special attention. The type of foods covered here are as follows:

### **1. Cut fruits/salads, fresh juices and beverages**

- 1) Fresh fruits /vegetables cut or juiced should be used immediately; however, short storage should be only under refrigeration in sanitized and properly covered vessels.
- 2) Water used in beverages should be potable.
- 3) Ice used should be made of potable water only.
- 4) Food or beverages should not be stored in the same container used to store the ice intended for consumption.
- 5) Juice concentrates must be checked regularly for any fungal growth / change of colour, odour or gas formation in the bottle.
- 6) Juice dispensing machine should be cleaned and rinsed with water regularly.



7) Containers made of food grade material should be used for collecting juice.

8) Clean and intact utensils/crockery & cutlery / disposables should be used for serving.

## **2. Confectionery products**

1) Prepared confectionery products should be kept in airtight containers and displayed hygienically.

2) Cream to be used is stored covered under refrigeration.

3) Finished products should be refrigerated with proper labels indicating date of expiry.

4) Products should be properly wrapped/ packaged after proper cooling.

5) Only permitted food additives (colour, preservatives, flavouring agents etc.) should be used.

## **3. Meat, poultry & fish products**

1) Non veg. products/raw materials should be purchased (chilled products temperature should be at 5<sup>0</sup>C or below and frozen products at -18 0C or below) from authorized/ licensed slaughter houses/vendors.

2) Processing area should be cleaned and disinfected promptly.

3) Preparation and processing of meat, poultry and marine products should be separate.

4) Non-veg. products are washed with potable water before use.

5) Non-veg. products are cooked thoroughly (core temperature 75<sup>0</sup> C) for at least 15 seconds or an effective time/temperature control e.g. 65 <sup>0</sup>C for 10 minutes, 70 <sup>0</sup>C for 2 minutes.

6) Non-veg. products should be stored covered in refrigerator below the veg. products.

- 7) Raw and cooked products should be stored physically separated with cooked products at the top.
- 8) All refuse/waste should be promptly removed from preparation area.

#### **4. Milk & dairy products**

- 1) All equipments and utensils should be thoroughly washed and rinsed with potable water before starting of work and at the end.
- 2) All mechanical equipments should be routinely cleaned, checked and maintained.
- 3) All products should be routinely checked for spoilage/contamination and shelf life.
- 4) Any spoiled/contaminated product should be promptly removed and discarded.
- 5) Milk should be received in clean and hygienic conditions at temperature below 5<sup>0</sup>C.
- 6) Milk and milk products should be used immediately or pasteurized and refrigerated.

#### **5. Water based chutneys, sauces etc.**

- 1) All fruits/vegetables should be washed properly before processing.
- 2) Clean and disinfected chopping boards/grinding stone/machine should be used.
- 3) Personal hygiene of food handlers need to be ensured.
- 4) Water used in the chutneys should be safe and potable.
- 5) Only permitted food additives should be used, if required, and in added in recommended quantities only.
- 6) Spoiled products should be discarded immediately after confirmation of spoilage (change in colour/ texture/ odour).

- 7) Sauces and chutneys should be stored in glass/food grade plastic containers with proper lids.
- 8) Clean and intact containers should be used for storing sauces and chutneys.
- 9) Sauces and chutneys should be stored in refrigerator when not in use.
- 10) Perishable/uncooked chutneys should be consumed immediately.

## **6. Foods transported to point of sale from the point of cooking**

- 1) Food should be reheated up to 70<sup>0</sup> C before consumption.
- 2) Food should be consumed within 4 hours of reheating.

## **7. Foods with Gravy**

- 1) Food products should not be stored at room temperature for more than 2 hours during display or sale.
- 2) For prolonged storage, foods should be stored in refrigerators or kept for hot holding at or above 60<sup>0</sup>C.
- 3) No water should be added after cooking/reheating/boiling.

## **8. Fried Foods**

- 1) Proper quality / branded oils/fats should be used for food preparation, frying etc.
- 2) Use packaged oil only.
- 3) Use of oils with high trans fats (like vanaspati) should be avoided as far as possible.
- 4) Re-heating and reuse of oil should be avoided as far as possible. Therefore, avoid having leftover oil wherever possible.

## **9. Post Cooked Mixing**

- 1) Ingredients added to the cooked food should be thoroughly washed/cleaned.
- 2) After cooking or post cooked mixing, the food should be used immediately.
- 3) Garnishes etc., if added should be prepared using fresh, thoroughly washed and freshly cut vegetables and used immediately.

### **10. Thawing of Frozen Products**

- 1)** Frozen products should be thawed in refrigerator/microwave/convection oven or under running potable water well before cooking.
- 2)** Only required portion of the food should be thawed at a time.
- 3)** Thawed products should be used immediately and not refrozen or kept in chiller.

## **CHAPTER 4 – Packaging and Labelling Regulations**

### **Part 4.1: Packaging**

#### **Regulation 4.1.1: General Requirements**

1) A utensil or container made of the following materials or metals, when used in the preparation, packaging and storing of food shall be deemed to render it unfit for human consumption:—

- (a) containers which are rusty;
- (b) enameled containers which have become chipped and rusty;
- (c) Copper or brass containers which are not properly tinned
- (d) containers made of aluminium not conforming in chemical composition to IS:20 specification for Cast Aluminium & Aluminium Alloy for utensils or IS:21 specification for Wrought Aluminium and Aluminium Alloy for utensils

(2) Containers made of plastic materials should conform to the following Indian Standards Specification, used as appliances or receptacles for packing or storing whether partly or wholly, food articles namely :—

- (i) IS : 10146 (Specification for Polyethylene in contact with foodstuffs);
- (ii) IS : 10142 (Specification for Styrene Polymers in contact with foodstuffs);
- (iii) IS : 10151 (Specification for Polyvinyl Chloride (PVC), in contact with foodstuffs);
- (iv) IS : 10910 (Specification for Polypropylene in contact with foodstuffs)
- (v) IS : 11434 (Specification for Ionomer Resins in contact with foodstuffs)

- (vi) IS : 11704 Specification for Ethylene Acrylic Acid (EAA) copolymer.
- (vii) IS : 12252 - Specification for Poly alkylene terephthalates (PET).
- (viii) IS : 12247 - Specification for Nylon 6 Polymer;
- (ix) IS : 13601 - Ethylene Vinyl Acetate (EVA)
- (x) IS : 13576 - Ethylene Methacrylic Acid (EMAA)
- (xi) Tin and plastic containers once used, shall not be re-used for packaging of edible oils and fats;

PROVIDED that utensils or containers made of copper though not properly tinned, may be used for the preparation of sugar confectionery or essential oils and mere use of such utensils or containers shall not be deemed to render sugar confectionery or essential oils unfit for human consumption.

## 2) General packaging requirements for Canned products

- (i) All containers shall be securely packed and sealed
- (ii) The exterior of the cans shall be free from major dents, rust, perforations and seam distortions.
- (iii) Cans shall be free from leaks.

### **Regulation 4.1.2: Product specific requirements**

#### **1. Packaging requirements for Milk and Milk Products**

- (a) Bottling or filling of containers with heat-treated milk and milk product shall be carried out mechanically and the sealing of the containers shall be carried out automatically.
- (b) Wrapping or packaging may not be re-used for dairy products, except where the containers are of a type which may be re-used after thorough cleaning and disinfecting.
- (c) Sealing shall be carried out in the establishment in which the last heat-treatment of drinking milk or liquid milk-base products has been carried out, immediately after filling, by means of a sealing device which ensures that the milk is protected from any adverse effects of external origin on its characteristic. The sealing device shall be so designed that once the container has been opened, the evidence of opening remains clear and easy to check.
- (d) immediately after packaging, the dairy products shall be placed in the rooms provided for storage.

## **2.Packaging requirements for Edible oil/ fat:**

Tin Plate used for the manufacture of tin containers for packaging edible oils and fats shall conform to the standards of prime grade quality contained in B.I.S. Standards No. 1993 or 13955 or 9025 or 13954 as amended from time to time and in respect of Tin containers for packaging edible oils and fats shall conform to IS No. 10325 or 10339 as amended from time to time.

## **3. Packaging requirements for Fruits and Vegetables Products**

- i) Every container in which any fruit product is packed shall be so sealed that it can not be opened without destroying the licensing

- number and the special identification mark of the manufacture to be displayed on the top or neck of the bottle.
- ii) For Canned fruits, juices and vegetables, sanitary top cans made up of suitable kind of tin plates shall be used
  - iii) For Bottled fruits, juices and vegetables, only bottles/ jars capable of giving hermetic seal shall be used
  - iv) Juices, squashes, crush, cordials, syrups, barley waters and other beverages shall be packed in clean bottles securely sealed. These products when frozen and sold in the form of ice shall be packed in suitable cartons. Juices and Pulps may be packed in wooden barrels when sulphited.
  - v) For packing Preserves, Jams, Jellies, and Marmalades, new cans, clean jars, new canisters, bottles, chinaware jars of aluminium containers may be used for packing these products and it shall be securely sealed.
  - vi) For Pickles, clean bottles, jars, wooden casks, tin containers covered from inside with polythene lining of 250 gauge or suitable lacquered cans shall be used.
  - vii) For Tomato Ketchups and Sauces, clean bottles shall be used. If acidity doesnot exceed 0.5% as acetic acid, open top sanitary cans may also be used.
  - viii) Vinegar and Chutney shall be packed in bottles or wooden casks.
  - ix) Candied fruits and peels and dried fruits and vegetables can be packed in paper bags, cardboard or wooden boxes, new tins, bottles, jars, aluminium and other suitable approved containers.
  - x) Fruits and Vegetable products can also be packed in aseptic and flexible packaging material having good grade quality conforming to the standards laid down by BIS.



#### **4. Packaging requirements for Canned Meat Products**

- i) New sanitary top cans made from suitable kind of tin plate shall be used. The cans shall be lacquered internally; they shall be sealed hermetically after filling. The lacquer used shall be sulphur resistant and shall not be soluble in fat or brine.
- ii) Cans used for filling pork luncheon meat shall be coated internally with edible gelatin, lard or lined with vegetable parchment paper before being filled.
- iii) Meat products packed in hermetically sealed containers shall be processed to withstand spoilage under commercial conditions of storage and transport.

#### **5. Packaging requirements for Drinking Water (Both Packaged and Mineral Water)**

It shall be packed in clean, hygienic, 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 foodgrade 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

## **PART 4.2: Labelling**

### **Regulation 4.2.1: General Requirements**

1) Every prepackaged food shall carry a label containing information as required under these regulations unless otherwise provided;

2) **Language of the particulars or declaration of the label:**

The particulars of declaration required under these Regulations to be specified on the label shall be in English or Hindi in Devnagri script:

**PROVIDED** that nothing herein contained shall prevent the use of any other language in addition to the language required under this regulation.

3) Pre-packaged food shall not be described or presented on any label or in any manner that is false, misleading or deceptive or is likely to create an erroneous impression regarding its character in any respect;

4) Label in pre-packaged foods shall be applied in such a manner that they will not become separated from the container;

5) Contents on the label shall be clear, prominent, indelible and readily legible by the consumer under normal conditions of purchase and use;

6) 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 and not obscured by it;

**Regulation 4.2.2: Labelling of Pre-packaged Foods**

- I. Every package of food shall carry the following information on the label.
  - (1) **The Name of Food:** The name of the food shall include trade name or description of food contained in the package.
  - (2) **List of Ingredients:** Except for single ingredient foods, a list of ingredients shall be declared on the label in the following manner:-
    - (a) The list of ingredients shall contain an appropriate title, such as the term “ingredients”;
    - (b) The name of ingredients used in the product shall be listed in descending order of their composition by weight or volume, as the case may be, at the time of its manufacture;
    - (c) A specific name shall be used for ingredients in the list of ingredients;

**Provided that** for ingredients falling in the respective classes, the following class titles may be used, namely:-

<b>Name of the classes</b>	<b>Class names</b>
Edible vegetable oils/ Edible vegetable fat	Edible vegetable oil/ Edible vegetable fat or both hydrogenated or Partially hydrogenated oil
Animal fat / oil other than milk fat	Give name of the source of fat.

	Pork fat, lard and beef fat or extracts thereof shall be declared by specific names
Starches, other than chemically modified starches	Starch
All species of fish where the fish constitutes an ingredient of another food and provided that the labelling and presentation of such food does not refer to a species of fish	Fish
All types of poultry meat where such meat constitutes an ingredient of another food and provided that the labelling and presentation of such a food does not refer to a specific type of poultry meat	Poultry meat
All types of cheese where cheese or mixture of cheeses constitutes an ingredient of another food and provided that the labelling and presentation of such food does not refer to a specific type of cheese	Cheese
All spices and condiments and their extracts	Spices and condiments or mixed spices/ condiments as appropriate
All types of gum or preparations used in the manufacture of gum base for chewing gum	Gum Base
Anhydrous dextrose and dextrose monohydrate	Dextrose or Glucose
All types of Caseinates	Caseinates

Press, expeller or refined cocoa butter	Cocoa butter
All crystallized fruit	Crystallized fruit
All milk and milk products derived solely from milk	Milk solids
Cocoa bean, Coconib, Cocomass, Cocoa press, Cocoa solids cakes, Cocoa powder (Fine/Dust)	Cocoa solids

**PROVIDED FURTHER** that pork fat, lard and beef fat or extract thereof shall be declared by their specific names

- (d) where an ingredient itself is the product of two or more ingredients, such a compound ingredients shall be declared in the list of ingredients, and shall be accompanied by a list, in brackets, of its ingredients in descending order of weight or volume, as the case may be:

**Provided** that where a compound ingredient, constitutes less than five percent of the food, the list of ingredients of the compound ingredient, other than food additive, need not to be declared;

- (e) Added water shall be declared in the list of ingredients except in cases where water forms part of an ingredient, such as, brine, syrup or broth, used in the compound food and so declared in the list of ingredients:

**Provided** that water or other volatile ingredients evaporated in the course of manufacture need not be declared;

**Provided further** that in the case of dehydrated or condensed food, which are intended to be reconstituted by addition of water, the ingredients in such reconstituted food shall be declared in descending order of weight or volume as the case may be, and shall contain a statement such as “ingredients of the product when prepared in accordance with the directions on the label”;

- (f) Every package of food sold as a mixture or combination shall disclose the percentage of the ingredient used at the time of the manufacture of the food (including compound ingredients or categories of ingredients), if such ingredient–
  - (i) is emphasised as present on the label through words or pictures or graphics; or
  - (ii) is not within the name of the food but, is essential to characterise the food and is expected to be present in the food by consumers, if the omission of the quantitative ingredient declaration will mislead or deceive the consumer.

**Provided that** where the ingredient has been used as flavouring agent, the disclosure of such ingredient is not required:

**Provided further** that where the drained net weight is indicated on the label as required or in case of such food products where specific provisions are stipulated under these Regulations or where a pictorial representation of a serving suggestion is made for consumer information and use, the disclosure of such ingredient is not required.

**PROVIDED FURTHER** that in case of any bottle containing liquid milk or liquid beverage having milk as an ingredient, soft drink, carbonated water or ready-to-serve fruit beverages, the declarations with regard to addition of fruit pulp and fruit juice shall invariably appear on the body of the bottle.

**(3) Nutritional information** – Nutritional Information or nutritional facts per 100 gm or 100ml or per serving of the product shall be given on the label containing the following:-

- (i) energy value in kcal;
- (ii) the amounts of protein, carbohydrate (specify quantity of sugar) and fat in gram (g);
- (iii) the amount of any other nutrient for which a nutrition or health claim is made:

**PROVIDED** that where a claim is made regarding the amount or type of fatty acids or the amount of cholesterol, the amount of saturated fatty acids, monounsaturated fatty acids and polyunsaturated fatty acids in gram (g) and cholesterol in milligram (mg) shall be declared, and the amount of trans fatty acid in gram (g) shall be declared in addition to the other requirement stipulated above;

Wherever, numerical information on vitamins and minerals is declared, it shall be expressed in metric units;

Where the nutrition declaration is made per serving, the amount in gram (g) or milliliter (ml) shall be included for reference beside the serving measure;

**PROVIDED** that –

- (i) the nutritional information may not be necessary, in case of foods such as raw agricultural commodities, like, wheat, rice, cereals, spices, spice mixes, herbs, condiments, table salt, sugar, jaggery, or non –nutritive products, like, soluble tea, coffee, soluble coffee, coffee-chicory mixture, packaged drinking water, packaged mineral water, alcoholic beverages or fruit and vegetables, processed and pre- packaged assorted vegetables, fruits, vegetables and products that comprise of single ingredient, pickles, papad, or foods served for immediate consumption such as served in hospitals, hotels or by food services vendors or *halwais*, or food shipped in bulk which is not for sale in that form to consumers.
  
- (ii) The compliance to quantity of declared nutrients on the label shall be according to the established practices.

*Explanation* – For the purpose of this provision, at the time of analysis, due consideration, based on shelf-life, storage, and inherent nature of the food shall be kept in view in case of quantity declared nutrients;

- (iii) The food, in which hydrogenated vegetable fats or bakery shortening is used shall declare on the label that 'hydrogenated vegetable fats or bakery shortening used-contains trans fats;

Provided further that, a health claim of 'trans fat free' may be



made in cases where the trans fat is less than 0.2 gm per serving of food and the claim 'saturated fat free' may be made in cases where the saturated fat does not exceed 0.1 gm per 100 gm or 100 ml of food.

**(4) Veg/ Non veg declaration –**

- (i)** Every package of "Non Vegetarian" food shall bear a declaration to this effect made by a symbol and colour code as stipulated below to indicate that the product is Non-Vegetarian Food. The symbol shall consist of a brown colour filled circle having a diameter not less than the minimum size specified in the Table mentioned in **clause 4 of Regulation 4.2.2 (4)**, inside a square with brown outline having sides double the diameter of the circle as indicated below :



the symbol shall be prominently displayed

- (a) on principal display panel of the package having contrast background
  - (b) just close in proximity to the name or brand name of the product
  - (c) on the pamphlets, leaflets, advertisements in any media
- (ii)** Where any article of food contains egg only as Non-Vegetarian ingredient, the manufacturer, or packer or seller may give declaration to this effect in addition to the said symbol.

**(iii)** Every package of Vegetarian Food shall bear a declaration to this effect by a symbol and colour code as stipulated below for this purpose to indicate that the product is Vegetarian Food. The symbol shall consist of

a green colour filled circle, having a diameter not less than the minimum size specified in the Table below, inside the square with green outline having side double the diameter of the circle, as indicated below :



**(iv) Size of the logo**

<b>Sl No.</b>	<b>Area of principal display panel</b>	<b>Minimum size of diameters in mm</b>
1.	Upto 100 cms. Square	3
2.	Above 100 cms. Square upto 500 cms square	4
3.	Above 500 cms square upto 2500 cms square	6
4.	Above 2500 cms. Square	8

- (a) the symbol shall be prominently displayed
  - (i) on the package having contrast background on principal display panel
  - (ii) just close in proximity to the name or brand name of the product
  - (iii) on the labels, containers, pamphlets, leaflets, advertisements in any media

Provided also that the provisions of these regulations shall not apply in respect of mineral water or packaged drinking water or carbonated water or liquid and powdered milk.

**(5) Declaration of Food Additives:**

- (i)** For food additives falling in the respective classes and appearing in lists of food additives permitted for use in foods generally, the

following class titles shall be used together with the specific names or recognized international numerical identifications:

Acidity Regulator, Acids, Anticaking Agent, Antifoaming Agent, Antioxidant, Bulking Agent, Colour, Colour Retention Agent, Emulsifier, Emulsifying Salt, Firming Agent, Flour Treatment Agent, Flavour Enhancer, Foaming Agent, Gelling Agent, Glazing Agent, Humectant, Preservative, Propellant, Raising Agent, Stabilizer, Sweetener, Thickener:

**(ii) Addition of colours and/or Flavours-**

**(a) Extraneous addition of colouring matter to be mentioned on the label** – Where an extraneous colouring matter has been added to any article of food, there shall be written on the label attached to any package of food so coloured a statement in capital letters as below:

CONTAINS PERMITTED NATURAL COLOUR(S)

OR

CONTAINS PERMITTED SYNTHETIC FOOD COLOUR(S)

OR

CONTAINS PERMITTED NATURAL AND SYNTHETIC FOOD COLOUR(S)

**(b) Extraneous addition of flavouring agents to be mentioned on the label.**

Where an extraneous flavouring agent has been added to any article of food, there shall be written just beneath the list of ingredients on the label attached to any package of food so flavoured, a statement in capital letters as below :

**CONTAINS ADDED FLAVOUR (specify type of flavouring agent)**

**Note:** — In addition to above statement, the common name or class name of the flavour shall also be mentioned on label.

(C) **In case both colour and flavour are used in the product, one of the following combined statements in capital letters shall be displayed,** just beneath the list of ingredients on the label attached to any package of food so coloured and flavoured, namely :-

CONTAINS PERMITTED NATURAL COLOUR(S) AND ADDED FLAVOUR(S)

OR

CONTAINS PERMITTED SYNTHETIC FOOD COLOUR(S) AND ADDED FLAVOUR(S)

OR

CONTAINS PERMITTED NATURAL AND SYNTHETIC FOOD COLOUR(S) AND  
ADDED FLAVOUR(S)

OR

CONTAINS PERMITTED NATURAL\* /AND\* SYNTHETIC\* COLOUR(S) AND ADDED  
FLAVOUR(S)

\*Strike out whichever is not applicable

When statement regarding addition of colours or flavours is displayed on the label in accordance with the above regulation and **Regulation 6.2.1** of these Regulations, respectively, addition of such colours or flavours need not be mentioned in the list of ingredients.

(d) The common name or class name of the flavour shall also be mentioned on the statement regarding added flavours.

Provided that in case of artificial flavouring substances, the label shall declare the common name of the flavours, but in case of the natural flavouring substances or nature identical flavouring substances, the class name of flavours shall be mentioned on the label and it shall comply with the requirement of label declaration as specified under **Regulations 4.2.2**

**PROVIDED FURTHER** that when combined 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.

Provide also further every package of synthetic food colours preparation and mixture shall bear a label upon which is printed a declaration giving the percentage of total dye content

**(6) Name and complete address of the manufacturer**

- (i) The name and complete address of the manufacturer and the manufacturing unit if these are located at different places and in case the manufacturer is not the packer or bottler, the name and complete address of the packing or bottling unit as the case may be shall be declared on every package of food;
- (ii) Where an article of food is manufactured or packed or bottled by a person or a company under the written 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 to the company, for and on whose behalf it is manufactured or packed or bottled;
- (iii) Where an article of food is imported into India, the package of food shall also carry the name and complete address of the importer in India.

PROVIDED FURTHER that where any food article manufactured outside India is packed or bottled in India, the package containing such food article shall also bear on the label, the name of the country of origin of the food article and the name and complete address of the importer and the premises of packing or bottling in India.

(7) **Net content**

(i) Net Content by weight or volume or number, as the case may be, shall be declared on every package of food; and

(ii) In addition to the declaration of net contents, a food packed in a liquid medium shall carry a declaration of the drained weight of the food.

*Explanation 1.*- For the purposes of this requirement the expression "liquid medium" include water, aqueous solutions of sugar and salt, fruit and vegetable juices or vinegar, either singly or in combination.

*Explanation 2.*- In declaring the net quantity of the commodity contained in the package, the weight of the wrappers and packaging materials shall be excluded:

(iii) Where a package contains a large number of small items of confectionery, each of which is separately wrapped and it is not reasonably practicable to exclude from the net weight of the commodity, the weight of such immediate wrappers of all the items of the confectionery contained in the package, the net weight declared on the package containing such confectionary or on the

label thereof may include the weight of such immediate wrapper if the total weight of such immediate wrapper does not exceed –

(a) eight per cent. Where such immediate wrapper is a waxed paper or other paper with wax or aluminium foil under strip; or

(b) six per cent. In case of other paper of the total net weight of all the items of confectionery contained in the package minus the weight of immediate wrapper.

**(8) Lot/Code/Batch identification**

A batch number or code number or lot number which is a mark of identification by which the food can be traced in the manufacture and identified in the distribution, shall be given on the label.

**Provided** that in case of packages containing bread and milk including sterilised milk, particulars under this clause shall not be required to be given on the label.

**(9) 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:

**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:

**PROVIDED FURTHER** that in case any package contains commodity which has a short shelf life of less than three months, the date, month and year in which the commodity is manufactured or prepared

or pre-packed shall be mentioned on the label.

**(10) Best Before**

- (i) the month and year in capital letters upto which the product is 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

(Note: — blank be filled up)

- (ii) In case of package or bottle containing sterilised or Ultra High Temperature treated milk, soya milk, flavoured milk, any package containing bread, dhokla, bhelpuri, pizza, doughnuts, khoa, paneer, or any uncanned package of fruits, vegetable, meat, fish or any other like commodity, the declaration be made as follows:—

“BEST BEFORE .....DATE/MONTH/YEAR”

OR

“BEST BEFORE.....DAYS FROM PACKAGING”

OR

“BEST BEFORE ..... DAYS FROM MANUFACTURE”

Note:

- (a) blanks be filled up  
(b) Month and year may be used in numerals



(c) Year may be given in two digits

**(iii)** On packages of Aspartame, instead of Best Before date, Use by date/recommended last consumption date/expiry date shall be given, which shall be not more than three years from the date of packing;

(iv) In case of infant milk substitute and infant foods instead of Best Before date, Use by date/recommended last consumption date/expiry date shall be given,

Provided FURTHER that the declaration of best before date for consumption shall not be applicable to

- (i) wines and liquors
- (ii) alcoholic beverages containing 10 percent or more by volume of alcohol.

**PROVIDED FURTHER** that in the case of returnable new glass bottle manufactured and used for packing of such beverages **on or after 19<sup>th</sup> March 2009** shall carry these declarations on its body”.

**PROVIDED FURTHER** that all the above provisions except date of manufacture and “best before date” shall not apply in respect of carbonated water (plain soda and potable water impregnated with carbon dioxide under pressure) packed in returnable glass bottles

**(11) Country of origin for imported food:**

- (i) The country of origin of the food shall be declared on the label of food imported into India.
- (ii) When a food undergoes processing in a second country which changes its nature, the country in which the processing is

performed shall be considered to be the country of origin for the purposes of labelling.

**(12) Instructions for use:**

- (i) Instructions for use, including reconstitution, where applicable, shall be included on the label, if necessary, to ensure correct utilization of the food.

**Part 4.3: Manner of declaration**

**Regulation 4.3.1: General Conditions**

**1)** 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 Regulations.

2) Every declaration which is required to be made on package under these regulations shall be

- (i) Legible and prominent, definite, plain and unambiguous
- (ii) Conspicuous as to size number and colour
- (iii) as far as practicable, in such style or type of lettering as to be boldly, clearly and conspicuously present in distinct contrast to the other type, lettering or graphic material used on the package, and shall be printed or inscribed on the package in a colour that contrasts conspicuously with the background of the label

Provided that -

- (a) Where any label information is blown, formed or moulded on a glass or plastic surface or where such information is embossed or

perforated on a package, that information shall not be required to be presented in contrasting colours:

(b) Where any declaration on a package is printed either in the form of a handwriting or hand script, such declaration shall be clear, unambiguous and legible.

3) No declaration shall be made so as to require it to be read through any liquid commodity contained in the package.

4) Where a package is provided with an outside container or wrapper, such container or wrapper shall also contain all the declarations which are required to appear on the package except where such container or wrapper itself is transparent and the declarations on the package are easily readable through such outside container or wrapper.

**5) 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 relation to the place of origin of the said food:

PROVIDED that this regulation shall not apply in respect of established trade or fancy names of confectionery, biscuits and sweets, such as, barley, sugar or in respect of aerated waters, such as, Ginger Beer or Gold-Spot or any other name in existence in international trade practice.

**Regulation 4.3.2 Principal display panel:** The information required under these Regulations shall be given on the principal display panel of the package or container and such information may be given in the

following manner.

- a. All information should be grouped together and given at one place..

OR

The pre-printed information be grouped together and given in one place and

- b. Online information or those not preprinted be grouped together in another place.

**1) Area of the principal display panel**

The area of principal Display panel shall not be less than -

- a) in the case of a rectangular container, forty percent of the product of height and width of the panel of such container having the largest area;

- b) In case of cylindrical or nearly cylindrical, round or nearly round, oval or nearly oval container, twenty percent of the product of the height and average circumference of such container; or

- c) In the case of container of any other shape, twenty percent of the total surface area of the container except where there is label, securely affixed to the container, such label shall give a surface area of not less than ten percent of the total surface area of the container.

Provided that in the case of package having a capacity of five cubic centimeters or less, the principal display panel may be card or tape affixed firmly to the package or container and bearing the required information under these Regulations.

**Regulation 4.3.3 The height of numeral in the declaration**

- (i) The height of any numeral required under these regulations, on the principal display panel shall not be less than -

- a. as shown in Table - I below if the net quantity is declared in terms of weight or volume and
- b. as shown in Table II below, if the net quantity is declared in terms of length, area or number.

<b>TABLE - I</b>			
Sl. No	Minimum height of numeral Net quantity in Weight/volume	Minimum height in mm	
		Normal case	When blown, formed Moulded, or perforated on container
1.	Upto 50g/ml	1	2
2.	Above 50g/ml upto 200g/ml	2	4
3.	Above 200 g/ml upto 1 kg/litre	4	6
4.	Above 1 kg/litre	6	8

(ii)

<b>TABLE - II</b>			
Sl. No.	Minimum height of numeral Net quantity in Length area or number area of principal display panel	Minimum height in mm	
		Normal case	When blown, formed, Moulded, or perforated on container
1.	Upto 100 cms square	1	2
2.	Above 100 cms. Square upto 500 cms. Square	2	4
3	Above 500 cms. Square upto 2500 cms. Square	4	6
4.	Above 2500 cms. Square	6	8

- (ii) The **height of letters** in the declaration under **Regulation 4.3.2 (2)** shall not be less than 1 mm. When blown, formed, moulded, embossed or perforated, the height of letters shall not be less than 2mm.

Provided that the width of the letter or numeral shall not be less than one-third of its height, but this proviso shall not apply in the case of numeral "I" and letters i, I and I:

Provided further that in case of label declarations required under **Part 4.4** except in case declaration specifying instructions for use or preparation of the product, the size of letters shall not be less than 3mm.

#### **Part 4.4: Specific Requirements/ Restrictions on manner of labelling**

##### **Regulation 4.4.1: Labelling of infant milk substitute and infant food**

- 1) An article of infant milk substitutes /infant foods whose standards are not prescribed under **Chapter 5**, shall be manufactured for sale, exhibited for sale or stored for sale only after obtaining the approval of such articles of food and its label from Government of India.
- 2) Without prejudice to any other provisions relating to labelling requirements contained in these regulations, every container of infant milk substitute or infant food or any label affixed thereto shall indicate in a clear, conspicuous and in an easily readable manner, the words "IMPORTANT NOTICE" in capital letters and indicating thereunder the following particulars, namely:-
  - (i) a statement "MOTHER'S MILK IS BEST FOR YOUR BABY" in capital letters. The types of letters used shall not be less than five millimeters and the text of such statement shall be in the Central

Panel of every container of infant milk substitute or infant food or any label affixed thereto. The colour of the text printed or used shall be different from that of the background of the label, container as the case may be. In case of infant food, a statement indicating "infant food shall be introduced only (after the age of six months and upto the age of two years)" shall also be given;

- (ii) a statement that infant milk substitute or infant food should be used only on the advice of a health worker as to the need for its use and the proper method of its use;
- (iii) a warning that infant milk substitute or infant food is not the sole source of nourishment of an infant;
- (iv) a statement indicating the process of manufacture (e.g spray dried) except in case of infant foods, instruction for appropriate and hygienic preparation including cleaning of utensils, bottles and teats and warning against health hazards of inappropriate preparations, as under;  
"Warning/ caution-Careful and hygienic preparation of infant foods/infant milk substitute is most essential for health. Do not use fewer scoops than directed since diluted feeding will not provide adequate nutrients needed by your infant. Do not use more scoops than directed since concentrated feed will not provide the water needed by your infant".
- (v) the approximate composition of nutrients per 100 gms. of the product including its energy value in Kilo Calories/Joules;

- (vi) the storage condition specifically stating "store in a cool and dry place in an air tight container" or the like (after opening use the contents within the period mentioned or the expiry date whichever is earlier);
- (vii) the feeding chart and directions for use and instruction for discarding leftover feed;
- (viii) Instruction for use of measuring scoop (level or heaped) and the quantity per scoop (scoop to be given with pack);
- (ix) indicating the Batch No. Month and Year of its manufacture and expiry date
- (x) the protein efficiency ratio (PER) which shall be minimum 2.5 if the product other than infant milk substitute is claimed to have higher quality protein;
- (xi) the specific name of the food additives, if permitted, shall be declared in addition to appropriate class names.

3) No containers or label referred to in **Regulation (ix) of 4.4.1 (2)** relating to infant milk substitute or infant food shall have a picture of infant or women or both. It shall not have picture or other graphic materials or phrases designed to increase the saleability of the infant milk substitute or infant food. The terms "Humanised" or "Maternalised" or any other similar words shall not be used. The Package and/or any other label of infant milk substitute or infant food shall not exhibit the words, "Full Protein Food", "energy Food", "Complete food" or "Health Food" or any other similar expression.

4) The containers of infant milk substitute meant for (premature baby (born before 37 weeks)/low birth weight infant (less than 2500gm) or labels affixed thereto shall indicate the following additional information, namely:-



- (i) the words [PREMATURE BABY (BORN BEFORE 37 WEEKS) LOW BIRTH WEIGHT (LESS THAN 2.5 KG] in capital letters along with the product name in central panel;
  - (ii) a statement "the low birth weight infant milk substitute shall be withdrawn under medical advice as soon as the mother's milk is sufficiently available"; and
  - (iii) a statement "TO BE TAKEN UNDER MEDICAL ADVICE" in capital letters.
- 5) The product which contains neither milk nor any milk derivatives shall be labeled "contains no milk or milk product" in conspicuous manner.
- 6) The container of infant milk substitute for lactose or lactose and sucrose intolerant infants or label affixed thereto shall indicate conspicuously "LACTOSE-FREE or SUCROSE-FREE or LACTOSE and SUCROSE-FREE" in capital letters and statement "TO BE TAKEN UNDER MEDICAL ADVICE" and shall also bear the following statements, namely:-
- "Lactose free Infant Milk Substitute should only be used in case of diarrhea due to lactose intolerance.
- The lactose free/sucrose free Infant Milk Substitute should be withdrawn if there is no improvement in symptoms of intolerance".
- 7) The container of infant milk substitute meant for infants with allergy to cow's /buffalo's milk protein or soy protein or label affixed thereto shall indicate conspicuously "HYPOALLERGENIC FORMULA"

in capital letters and statement "TO BE TAKEN UNDER MEDICAL ADVICE".

**8) Declaration to be surrounded by line:**

There shall be a surrounding line enclosing the declaration where the words "unsuitable for babies" are required to be used.

(i) Distance of surrounding line:

The distance between any part of the words "unsuitable for babies" surrounding the line enclosing these words shall not be less than 1.5 mm.

**Regulations 4.4.2: Labelling of edible oils and fats**

- 1) The package, label or the advertisement of edible oils and fats shall not use the expressions "Super-Refined", "Extra-Refined", "Micro-Refined", "Double-Refined", "Ultra-Refined", "Anti-Cholesterol", "Cholesterol Fighter", "Soothing to Heart", "Cholesterol Friendly", "Saturated Fat Free" or such other expressions which are an exaggeration of the quality of the Product.
- 2) Every container in which solvent-extracted oil or de-oiled meal or edible flour is packed for sale shall, at the time of sale by the producer, bear the following particulars in English or Hindi (Devnagri script) :-
  - (i) the name, trade name, if any, or description of the solvent-extracted oil or de-oiled meal or edible flour, as the case may be:

(ii) in the case of oil not conforming to the standards of quality for "refined" grade solvent extracted oils specified in **Article 1 of 5.2.7** for Edible vegetable oil/Vanaspati, a declaration in a type-size of not less than 50 mm, as follows shall appear on the label:

(a) "NOT FOR DIRECT EDIBLE CONSUMPTION", in the case of oils complying with the requirements for the "semi-refined" or "raw-grade 1" grades of oil specified in **Article 1 of 5.2.7**

(b) "FOR INDUSTRIAL NON-EDIBLE USES ONLY", in the case of oils not complying with the requirements under item (a) above;

(iii) the name and business particulars of the producer;

(iv) the net weight of the contents in the container;

(v) the batch number, month and year of manufacture:

Provided that where solvent extracted oils are transported in bulk in rail tank-wagons or road tankers, or where de-oiled meal or edible flour is transported in bulk either for storage in silos or transferred to ship for bulk shipment, it shall be sufficient if the aforesaid particulars are furnished in the accompanying documents.

3) Every container in which solvent is packed shall, at the time of sale by the manufacturer or dealer thereof, bear the Indian Standards Institution certification mark

4) Every container in which vanaspati, margarine, bakery shortening, blended edible vegetable oils, mixed fat spread and refined vegetable oil

is packed in addition to other labelling requirements provided in these regulations shall bear the following particulars in English or Hindi in Devnagri script:

- a. the name/description of the contents, "free from Argemone Oil";
- b. the mass/volume of the contents;

5) Every container of refined vegetable oil shall bear the following label, namely:-

**"Refined (name of the Oil) Oil"**

Provided that the container of imported edible oil shall also bear the word, "Imported", as prefix.

6) Every package containing an admixture of palmolein with groundnut oil shall carry the following label, namely

**"BLEND OF PALMOLEIN AND GROUNDNUT OIL"**

Palmolein.....per cent  
Groundnut oil....per cent"

7) Every package containing an admixture of imported rape-seed oil with mustard oil, shall carry the following label, namely :

**"BLEND OF IMPORTED RAPE-SEED OIL AND MUSTARD OIL"**

Imported rape-seed oil.....per cent  
Mustard oil.....per cent"

8) Every package of vanaspati made from more than 30 percent of Rice bran oil shall bear the following label, namely :-

"This package of vanaspati is made from more than 30 per cent Rice bran oil by weight"

9) Every package containing Fat Spread shall carry the following labels namely:-

**Milk Fat Spread**  
Use before .....  
Date of packing .....  
Per cent by weight.....  
Total Milk Fat Content .....

**Mixed Fat Spread**  
Use before .....  
Date of packing .....  
Per cent by weight.....  
Milk Fat Content.....  
Percent by weight.....  
Total Milk Fat Content .....

**Vegetable Fat Spread**  
Use before .....  
Date of packing .....  
Per cent by weight.....  
Total Fat Content .....

10) A package containing annatto colour in vegetable oils shall

bear the following label namely :-

"Annatto colour in oil (Name of oil/oils) used

11) Every package containing an admixture of edible oils shall carry the following label, namely:-

This blended edible vegetable oil contains an admixture of :

(i) .....%	by	Weight
(ii).....%	by	Weight

(Name and nature of edible vegetable oils i.e. in raw or refined form)  
Date of Packing.....

There shall also be the following declaration in bold capital letters along with the name of product on front/central panel,-

**"NOT TO BE SOLD LOOSE"**

**Regulation 4.4.3: Labelling of irradiated Food**

**Irradiated foods.-** The label of a food, which has been treated with ionizing radiation, shall carry a written statement indicating the treatment in close proximity to the name of the food.

In addition all packages of irradiated food shall bear the following declaration and logo, namely :-

**PROCESSED BY IRRADIATION METHOD**  
**DATE OF IRRADIATION .....**



<b>LICENCE NO .....</b>
<b>PURPOSE OF IRRADIATION.....</b>

**Regulation 4.4.4: Other Product Specific Labelling Requirements**

1) **Coffee-Chicory Mixture:-** (i) Every package containing a mixture of coffee and chicory shall have affixed to it a label upon which shall be printed the following declaration:

Coffee blended with chicory	
This mixture contains	
Coffee.....	Per cent
Chicory.....	Per cent

(ii) Every package containing Instant Coffee-Chicory mixture shall have affixed to it a label upon which shall be printed the following declarations;

Instant Coffee-Chicory mixture made from blends of coffee and chicory

Coffee.....	Per Cent
Chicory.....	Per cent

**2) CONDENSED MILK OR DESSICATED (DRIED) MILK:**

Every package containing condensed milk or desiccated (dried) milk shall

bear a label upon which is printed such one of the following declarations as may be applicable or such other declaration substantially to the like effect as may be allowed by the State Government

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

**"CONDENSED MILK UNSWEETENED**  
(Evaporated Milk) (This tin contains the equivalent) of (x)..... litres of  
toned milk"

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

**CONDENSED MILK SWEETENED**  
This tin contains the equivalent of (x)..... litres of toned milk  
with sugar added"

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

**"CONDENSED SKIMMED MILK UNSWEETENED"** (Evaporated  
Skimmed Milk) This tin contains the equivalent of (x)..... litres of  
skimmed milk

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

**"CONDENSED SKIMMED MILK SWEETENED"**  
This tin contains the equivalent of (x).....litres of skimmed milk with  
sugar added"

(v) In the case of condensed milk (sweetened and flavoured):

"This has been flavoured with.....  
**NOT TO BE USED FOR**  
**INFANTS BELOW SIX MONTHS"**

(vi) In the case of condensed milk/condensed Skimmed milk



(unsweetened) Sterilised by Ultra High Temperature (UHT) treatment:

**"This has been Sterilised by UHT Process"**

(vii) In the case of milk powder:

**"MILK POWDER**

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

(viii) In the case of milk powder which contains lecithin:

**"MILK POWDER IN THIS PACKAGE CONTAINS  
LECITHIN"**

(ix) In the case of partly skimmed milk powder :

**"PARTLY SKIMMED MILK POWDER**

This tin contains the equivalent of  
(x)..... litres of partly skimmed milk  
having..... per cent milk fat"

(x) In the case of skimmed milk powder:

**"SKIMMED MILK POWDER**

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

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

4) There shall not be placed on any package containing condensed milk

or desiccated (dried) milk any comment on, explanation of, or reference to either the statement of equivalence, contained in the prescribed declaration or on the words "machine skimmed" "skimmed" or "unsuitable for babies" except instructions as to dilution as follows:

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

Sweetened condensed milk and other similar products which are not suitable for infant feeding shall not contain any instruction of modifying them for infant feeding.

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

6) **Fluid milk:** - The caps of the milk bottles shall clearly indicate the nature of the milk contained in them. The indication may be either in full or by abbreviation shown below :

- (i) Buffalo milk may be denoted by the letter 'B'.
- (ii) Cow milk may be denoted by the letter 'C'
- (iii) Goat milk may be denoted by the letter 'G'
- (iv) Standardized milk may be denoted by the letter 'S'
- (v) Toned milk may be denoted by the letter 'T'

- (vi) Double toned milk may be denoted by the letter 'DT'
  - (vii) Skimmed milk may be denoted by the letter 'K'
  - (viii) Pasteurised milk may be denoted by the letter 'P'; followed by the class of milk. For example Pasteurised Buffalo milk shall bear the letters 'PB '.
  - (ix) alternatively colours of the caps of the milk bottles shall be indicative of the nature of milk contained in them, the classification of colours being displayed at places where milk is sold\stored or exhibited for sale, provided that the same had been simultaneously intimated to the concerned Local (Health) Authority, Other media of information like Press may also be utilised
- 7) **Ice cream** -- Every dealer in ice-cream or mixed ice-cream who in the street or other place of public resort, sells or offers or exposes for sale, ice-cream or ice-candy, from a stall or from a cart, barrow or other vehicle or from a basket, phial, tray or other container used without a staff or a vehicle shall have his name and address along with the name and address of the manufacturer, if any, legibly and conspicuously 'displayed' on the stall, vehicle or container as the case may be.
- 8) **Hingra** :- Every container containing Hingra shall bear a label upon which is printed a declaration in the following form, namely :  
"This container contains Hingra ( Imported from Iran\Afghanistan) and is certified to be conforming to the standards laid down in the Food Safety and Standards regulations"
- 9) **Light Black Pepper**:- Every package containing light black pepper shall bear the following label in addition to the Agmark seal and the requirements prescribed under **Regulation 4.2.1 and 4.2.2 of these Regulations:**

**“Light Black Pepper (Light berries)”**

10) Every package containing **“Cassia Bark”** shall bear the following

**“CASSIA BARK (TAJ)”**

**11)** Every package containing “CINNAMON” shall bear the following label

**“CINNAMON (DALCHINI)”**

12) Every package of chillies which contains added edible oil shall bear the following label:

**“CHILLIES IN THIS PACKAGE CONTAINS AN ADMIXTURE OF NOT MORE THAN 2 PERCENT OF.....(NAME OF OIL) EDIBLE OIL”**

**13)** Every package of ice-cream, kulfi, kulfa and chocolate ice-cream containing starch shall have a declaration on a label as specified in **Regulation 4.2.2**

**14) Masala:** Every package of mixed masala fried in oil shall bear the following label:

**“MIXED MASALA (FRIED) THIS MASALA HAS BEEN FRIED IN  
(Name of the edible oil used)”**

15) **Compounded Asafoetida:** Every container of compounded asafoetida shall indicate the approximate composition of edible starch or edible cereal flour used in the compound, on the label

16) Every package containing maida treated with improver or bleaching agents shall carry the following label, namely :

**“WHEAT FLOUR TREATED WITH IMPROVER/BLEACHING AGENTS, TO BE USED BY BAKERIES ONLY”**

- 17) Unless otherwise provided in these regulations, every package of malted milk food which contains added natural colouring matter except caramel, shall bear the following label, namely:

**“MALTED MILK FOOD IN THIS PACKAGE CONTAINS PERMITTED NATURAL COLOURING MATTER”**

- 18) Every advertisement for and/or a package of food containing added Monosodium Glutamate shall carry the following declaration, namely :-

**“THIS PACKAGE OF..... (Name of the food) contains added..... MONOSODIUM GLUTAMATE NOT RECOMMENDED FOR INFANTS BELOW -12 MONTHS”**

- 19) Every container of refined salseed fat shall bear the following label, namely:

**“REFINED SALSEED FAT FOR USE IN BAKERY AND CONFECTIONERY ONLY”**

- 20) Every container or package of table iodised salt or iron fortified common salt containing permitted anticaking agent shall bear the following label, namely:—

**“IODIZED SALT / IRON FORTIFIED COMMON SALT\* CONTAINS PERMITTED ANTICAKING AGENT”**  
**\* Strike out whichever is not applicable**

21) Every container or package of iron fortified common salt shall bear the following label, namely

**"IRON FORTIFIED COMMON SALT"**

22) Every package of Dried Glucose Syrup containing sulphur dioxide exceeding 40 ppm shall bear the following label namely

**"DRIED GLUCOSE SYRUP FOR USE IN SUGAR CONFECTIONERY ONLY"**

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

**"FLAVOURED TEA" (common name of permitted flavour) percentage Registration No....**

24) Every package of food which is permitted to contain artificial sweetener mentioned in table given in **Regulation 6.1.3 (2)** of these Regulations and an advertisement for such food shall carry the following label, namely:—

- (i) This ..... (Name of the artificial sweeteners).
- (ii) Not recommended for children.
- (iii) (a) \*Quantity of sugar added ..... gm/100 gm.
- (b) No sugar added in the product.
- (iv) \*Not for Phenylketoneurics (if Aspartame is added) \*strike out whatever is not applicable

25) In addition to the declaration under **Regulation 4.4.4 (24)** every package of food which is permitted to contain artificial sweetener

mentioned in table in **Regulation 6.1.3 (2)** of these Regulations and an advertisement for such food shall carry the following label, namely:—

**“CONTAINS ARTIFICIAL SWEETNER AND FOR CALORIE  
CONSCIOUS”**

26) The declaration under **Regulation 4.4.4 (25)** shall be provided along with name or trade name of product and shall be of the half of the size of the name/ trade name. The declaration may be given in two sentences, but in the same box:

27) Every package of Aspartame (Methyl ester), Acesulfame K, Sucralose and Saccharin Sodium marketed as Table Top Sweetener and every advertisement for such Table Top Sweetener shall carry the following label, namely:—

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

Provided that the package of aspartame (Methyl ester), marketed as Table Top Sweetener and every advertisement for such Table Top Sweetener shall carry the following label, namely:

**“Not for Phenylketoneurics”**

28) Every package of Pan Masala and advertisement relating thereto, shall carry the following warning, namely :-

**"Chewing of Pan Masala may be injurious to health"**

29) Every package of supari and advertisement relating thereto shall

carry the following warning in conspicuous and bold print, namely :-

**"Chewing of Supari is Injurious to Health"**

30) Every package of fruit squash by whatever name it is sold, containing additional sodium or potassium salt shall bear the following label, namely :-

**"IT CONTAINS ADDITIONAL  
SODIUM/POTASSIUM SALT"**

31) Every package of Cheese (hard), surface treated with Natamycin, shall bear the following label, namely :-

**"SURFACE TREATED WITH NATAMYCIN"**

32) Every package of Bakery and Industrial Margarine made from more than 30 per cent of Rice Bran Oil shall bear the following label, namely :-

**This package of Bakery & Industrial Margarine is made from more than 30 per cent of Rice Bran Oil by Wt.**

33) Every package of food which is permitted to contain a mixture of Aspartame (Methyl Ester) and Acesulfame Potassium Sweeteners mentioned in the **Table given in Regulation 6.1.3 (2)**, shall carry the following label, namely:—

**This ..... (Name of food) contains .....  
contains an admixture of Aspartame (Methyl Ester and  
Acesulfame Potassium. Not recommended for children.**

(a) \*Quantity of sugar added..... gm/100gm,



(b) No sugar added in the product.

\*Not for Phenylketoneurics (if Aspartame is added)

\*strike out whatever is not applicable

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

**FLAVOUR EMULSION AND FLAVOUR PASTE FOR USE IN CARBONATED OR NON-CARBONATED BEVERAGES ONLY**

35) Every package of drinking water shall carry the following declaration in Capital letters having the size of each letter as prescribed in **Regulation 4.2.2** ;

**"PACKAGED DRINKING WATER"**

One time usable plastic bottles of packaged drinking water shall carry the following declaration.

**CRUSH THE BOTTLE AFTER USE**

36) Every package of mineral water shall carry the following declaration in capital letters having the size of each letter as prescribed in **Regulation 4.2.2** ;

**"NATURAL MINERAL WATER"**

One time usable plastic bottles of mineral water shall carry the following declaration.

**CRUSH THE BOTTLE AFTER USE**

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

**“CONTAINS CAFFEINE”**

Provided if caffeine is added in the products, it shall be declared on the body of the Container/bottle.

Provided also that in case of returnable glass bottles, which are recycled for refilling the Declaration of caffeine, may be given on the crown.

38) Every package of Low Fat Paneer/ Chhana shall carry the following label, namely:-

**“Low Fat Paneer / Chhana”**

39) Every package of Cheese(s), if packed in polyfilm/wrapping of cloth, shall bear the following label, namely:-

**“Remove the outer packing before consumption”**

40) Every package of Frozen Desert / Frozen Confection shall bear the following label, namely:-

**“Frozen Deserts / Frozen Confection Contain ..... Milk Fat / Edible Vegetable Oil\* / and Vegetable Fat\*”**

**\*strike out whatever is not applicable**

41) Every container or package of common salt shall bear the following label, namely:-

**“COMMON SALT FOR IODISATION / IRON FORTIFICATION / ANIMAL USE / PRESERVATION / MEDICINE / INDUSTRIAL USE**

**\*strike out whichever is not applicable.”**

42) Every package of biscuits, bread and cakes containing Oligofructose shall bear the following declaration, namely:-

**“Contains Oligofructose (dietary fiber) — gm/100 gm”**

43) Every package of fresh fruit if coated with wax shall carry the following label, namely

**Coated with wax (give name of wax)**

**Regulation**

#### **4.4.5: Specific restrictions on Product labels**

**(1) Labels not to contain reference to Act or rules or regulations contradictory to required particulars** – The label shall not contain any reference to the Act or any of these regulations or any comment on, or reference to, or explanation of any particulars or declaration required by the Act or any of these regulations to be included in the label which directly or by implication, contradicts, qualifies or modifies such particulars or declaration.

**(2) Labels not to use words implying recommendations by medical profession** – There shall not appear in the label of any package, containing food for sale the words “recommended by the medical profession” or any words which imply or suggest that the food is recommended, prescribed, or approved by medical practitioners or approved for medical purpose.

#### **(3) Unauthorized use of words showing imitation prohibited**

1) There shall not be written in the statement or label attached to any package containing any article of food the word “imitation” or any

- word or words implying that the article is a substitute for any food, unless the use of the said word or words is specifically permitted under these regulations.
- 2) Any fruit syrup, fruit juice, fruit squash, fruit beverages, cordial, crush or any other fruit products standardised under **Chapter 5 of FSSA Regulations, 2010** which does not contain the prescribed amount of fruit juice or fruit pulp or fruit content shall not be described as a fruit syrup, fruit juice, fruit squash, fruit beverages, cordial, crush or any other fruit product as the case may be.
  - 3) Any food product which does not contain the specified amount of fruit and is likely to deceive or mislead or give a false impression to the consumer that the product contains fruit, whether by use of words or pictorial representation, shall be clearly and conspicuously marked on the label as “(NAME OF THE FRUIT) FLAVOURED”.
  - 4) Any food product which contains only fruit flavours, whether natural flavours and natural flavouring substances or nature identical flavouring substances, artificial flavouring substances as single or in combination thereof, shall not be described as a fruit product and the word “ADDED” (NAME OF FRUIT) FLAVOUR shall be used in describing such a product;
  - 5) carbonated water containing no fruit juice or fruit pulp shall not have a label which may lead the consumer into believing that it is a fruit product.

- 6) Any fruit and vegetable product alleged to be fortified with vitamin C shall contain not less than 40 mgms. of ascorbic acid per 100 gm. of the product.

**(4) Imitations not to be marked "pure"**

The word "pure" or any word or words of the same significance shall not be included in the label of a package that contains an imitation of any food.

**(5) Labelling prohibitions for Drinking Water (Both Packaged and Mineral Water)**

i) No claims concerning medicinal (preventative, alleviative or curative) effects shall be made in respect of the properties of the product covered by the standard Claims of other beneficial effects related to the health of the consumer shall not be made.

ii) 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.

iii) 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.

Note: Without prejudice to the standards laid down in this chapter, whenever water is used in the manufacture or preparation of any article of food, such water shall be free from micro-organisms likely to cause disease and also free from chemical constituents which may impair health

#### **Part 4.5: Restriction on advertisement**

There shall be no advertisement of any food which is misleading or contravening the provisions of Food Safety and Standards Act, 2006 (34 of 2006) or the rules/regulations made thereunder.

#### **Part 4.6: Exemptions from labelling requirements-**

##### **Regulations 4.6.1**

- 1) Where the surface area of the package is not more than 100 square centimeters, the label of such package shall be exempted from the requirements of list of ingredients, Lot Number or Batch Number or Code Number, nutritional information and instructions for use, but these information shall be given on the wholesale packages or multi piece packages, as the case may be.
- 2) the 'date of manufacture' or 'best before date' or 'expiry date' may not be required to be mentioned on the package having surface area of less than 30 square centimeters but these information shall be given on the wholesale packages or multipiece packages, as the case may be;
- 3) in case of liquid products marketed in bottles, if such bottle is intended to be reused for refilling, the requirement of list of ingredients shall be exempted, but the nutritional information specified in **Regulation 4.2.2 (3)** these Regulations shall be given on the label.

PROVIDED that in case of such glass bottles manufactured **after March 19, 2009**, the list of ingredients and nutritional information shall be given on the bottle.

- 4) in case of food with shelf-life of not more than seven days, the 'date of

manufacture' may not be required to be mentioned on the label of packaged food articles, but the 'use by date' shall be mentioned on the label by the manufacturer or packer.

- 5) In case of wholesale packages the particulars under **Regulations 5, 10, of 4.2.2 and 5.12** of these Regulations and this Regulation need not be specified.

**Part 4.7: Notice of addition, admixture or deficiency in food**

**Regulations 4.7.1**

- 1) Every advertisement and every price or trade list or label for an article of food which contains an addition, admixture or deficiency shall describe the food as containing such addition, admixture or deficiency and shall also specify the nature and quantity of such addition, admixture or deficiency. No such advertisement or price or trade list or label attached to the container of the food shall contain any words which might imply that the food is pure:

PROVIDED that for purpose of this regulation the following shall not be deemed as an admixture or an addition, namely:

- (a) salt in butter or margarine,
- (b) vitamins in food.

- 2) Every package, containing a food which is not pure by reason of any addition, admixture or deficiency, shall be labelled with an adhesive label, which shall have the following declaration:

<p><i>Declaration</i></p> <p>This (a) ..... contains an admixture/addition of not more</p>
--

than (b) ..... per cent. of (c).....

(a) Here insert the name of food.

(b) Here insert the quantity of admixture which may be present.

(c) Here insert the name of the admixture or the name of ingredient which is deficient.

Where the context demands it, the words "contains an admixture of" shall be replaced by the words "contains an addition of" or "is deficient in".

- 3) Unless the vendor of a food containing an addition, admixture or deficiency, has reason to believe that the purchaser is able to read and understand the declaratory label, he shall give the purchaser, if asked, the information contained in the declaratory label by word of mouth at the time of sale.
- 4) Nothing contained in this regulation shall be deemed to authorize any person to sell any article of food required under the Act or these regulations to be sold in pure condition, otherwise than in its pure condition.
- 5) Nothing contained in this Regulation shall apply in the case of sweets, confectionery, biscuits, bakery products, processed fruits, aerated water, vegetables and flavouring agents.



## **CHAPTER 5: FOOD PRODUCT STANDARDS**

### **PART 5.1: DAIRY PRODUCTS AND ANALOGUES**

#### **Regulation 5.1.1: MILK**

##### **1. DEFINITIONS:**

**1.1 MILK** is the normal mammary secretion derived from complete milking of healthy milch animal without either addition thereto or extraction therefrom. It shall be free from colostrum. Milk of different classes and of different designations shall conform to the standards laid down in the Table below in Article 2.

Total urea content in the milk shall not be more than 700 ppm

##### **1.2. PASTEURISATION—**

The terms "Pasteurisation", "Pasteurised" and similar terms shall be taken to refer to the process of heating every particle of milk of different classes to at least 63<sup>0</sup> C and holding at such temperature continuously for at least 30 minutes or heating it to at least 71.5<sup>0</sup>C and holding at such temperature continuously for at least 15 seconds or an approved temperature time combination that will serve to give a negative Phosphatase Test.

All pasteurised milk of different classes shall be cooled immediately to a temperature of 10<sup>0</sup> C, or less

**1.3. STERILISATION** :The term "sterilisation when used in association with milk, means heating milk in sealed container continuously to a temperature of either 115<sup>0</sup> C for 15 minutes or at least 130<sup>0</sup> C for a period of one second or more in a continuous flow and then packed under aseptic condition in hermetically sealed containers to ensure preservation at room temperature for a period not less than 15 days from the date of manufacture;

**1.4. BOILED MILK** means milk which has been brought to boil.

**1.5. Flavoured Milk**, by whatever name called, may contain nuts (whole, fragmented or ground) chocolate, coffee or any other edible flavour, edible food colours and cane sugar. Flavoured milk shall be

pasteurised, sterilised or boiled. The type of milk shall be mentioned on the label.

**1.6. MIXED MILK** means a combination of milk of cow, buffalo, sheep, goat or any other milch animal and may be a combination of any of these milk which has been made and conforms to the standards given in the Article 2 below.

**1.7. STANDARDISED MILK** means cow milk or buffalo milk or sheep milk or goat milk or a combination of any of these milk that has been standardised to fat and solids-not-fat percentage given in **Article 2** below by the adjustment of milk solids. Standardised milk shall be pasteurised and shall show a negative Phosphatase Test.

**1.8. RECOMBINED MILK** means the homogenised product prepared from milk fat, non-fat-milk solids and water. Recombined milk shall be pasteurised and shall show a negative Phosphatase test.

**1.9. TONED MILK** means the product prepared by admixture of cow or buffalo milk or both with fresh skimmed milk; or by admixture of cow or buffalo milk or both that has been standardised to fat and solids-not-fat percentage given in **Article 2** below by adjustment of milk solids. It shall be pasteurised and shall show a negative Phosphatase Test. When fat or dry non-fat-milk solids are used, it shall be ensured that the product remains homogeneous and no deposition of solids takes place on standing.

**1.10. DOUBLE TONED MILK** means the product prepared by admixture of cow or buffalo milk or both with fresh skimmed milk, or by admixture of cow or buffalo milk or both that has been standardised to fat and solids-not-fat percentage given in **Article 2** below by adjustment of milk solids. It shall be pasteurised and shall show a negative Phosphatase Test. When fat or dry non-fat milk solids are used, it shall be ensured that the product remains homogeneous and no deposition of solids takes place on standing.

**1.11. SKIMMED MILK** means the product prepared from milk from which almost all the milk fat has been removed mechanically.

**1.12. Full Cream Milk** means milk or a combination of buffalo or cow milk or a product prepared by combination of both that has been standardised to fat and solids-not-fat percentage, given in Article 2 below, by adjustment/addition of milk solids, Full Cream Milk shall be pasteurised. It shall show a negative phosphatase test. It shall be packed

in clean, sound and sanitary containers properly sealed so as to prevent contamination.

**1.13 MILK PRODUCTS** means the products obtained from milk such as cream, malai, curd, skimmed milk curd, chhanna, skimmed-milk chhanna, cheese, processed cheese, ice-cream, milk ices, condensed milk-sweetened and unsweetened, condensed skimmed milk-sweetened and unsweetened, milk powder, skimmed milk powder, partly skimmed milk powder, khoa, infant milk food, table butter and desi butter.

**Milk products** shall not contain any substance not found in milk unless specified in the standards.

**2. The standards of different classes and designations of milk** shall be as given in the table below. Milk shall conform to both the parameters for milk fat and milk solids not fat, independently, as prescribed in columns (4) and (5) of the said table:

Class of Milk	Designation	Locality	Minimum percent	
			Milk Fat	Milk solids not fat
(1)	(2)	(3)	(4)	(5)
Buffalo Milk	Raw, pasteurized, boiled,	Assam, Bihar, Chandigarh Delhi Gujarat Haryana Jharkhand Maharashtra Meghalaya Punjab Sikkim Uttar Pradesh Uttarakhand West Bengal Andaman and Nicobar Andhra Pradesh	6.0	9.0

	<b>flavoured, sterlized</b>	<b>Arunachal Pradesh Chhatisgarh Dadra &amp; Nagar haveli Goa, Daman &amp; Diu Himachal Pradesh Jammu &amp; Kashmir &amp; Karnataka</b>		
		<b>Kerala Lakshadweep, Minicoy &amp; Amindivi Island Madhya Pradesh Manipur Mizoram Nagaland Orissa Puducherry Rajasthan Tamil Nadu Tripura</b>	<b>5.0</b>	<b>9.0</b>

<b>Cow Milk</b>	<b>Raw, boiled, pasteurized, flavoured and sterlized</b>	<b>Chandigarh Haryana Punjab</b>	<b>4.0</b>	<b>8.5</b>
		<b>Andaman &amp; Nicobar Islands Andhra Pradesh Arunachal Pradesh Assam Bihar Chhatisgarh Dadra &amp; Nagar haveli Delhi Goa, Daman &amp; Diu Gujarat Himachal Pradesh Jammu &amp; Kashmir</b>	<b>3.5</b>	<b>8.5</b>
		<b>Jharkhand Karnataka Kerala Lakshadweep, Minicoy &amp; Adminidive Islands Madhya Pradesh Maharashtra Manipur Meghalaya Nagaland Puducherry Rajasthan Sikkim Tamil Nadu Tripura</b>	<b>3.5</b>	<b>8.5</b>

		<b>Uttar Pradesh Uttarakhand West Bengal</b>  <b>Mizoram Orissa</b>	<b>3.0</b>	<b>8.5</b>
<b>Goat or Sheep Milk</b>	<b>Raw, boiled, pasteurized, flavoured and sterlized</b>	<b>Chandigarh Chhatisgarh Haryana Kerala Madhya Pradesh Maharashtra Punjab Uttar Pradesh Uttarakhand</b>  <b>Andaman &amp; Nicobar Islands Andhra Pradesh Arunachal Pradesh Assam Bihar Chhatisgarh Dadra and Nagar haveli Delhi</b>	<b>3.5</b>	<b>9.0</b>

		Goa, Daman & Diu Gujarat Himachal Pradesh Jammu & Kashmir Jharkhand Karnataka Lakshadweep, Minicoy & Amindive Islands Manipur Meghalaya' Mizoram Nagaland Orissa Puducherry Rajasthan Sikkim, Tamil Nadu Tripura West Bengal	3.0	9.0
<b>Mixed Milk</b>	<b>Raw, pasteurised, boiled, flavoured and sterilised</b>	<b>All India</b>	<b>4.5</b>	<b>8.5</b>
<b>Standardized milk</b>	<b>Pasteurised, flavoured and sterilised</b>	<b>All India</b>	<b>4.5</b>	<b>8.5</b>
<b>Recombined Milk</b>	<b>Pasteurised, flavoured and sterilised</b>	<b>All India</b>	<b>3.0</b>	<b>8.5</b>
<b>Toned Milk</b>	<b>Pasteurised, flavoured and sterilised</b>	<b>All India</b>	<b>3.0</b>	<b>8.5</b>
<b>Double Toned milk</b>	<b>Pasteurised, flavoured and sterilised</b>	<b>All India</b>	<b>1.5</b>	<b>9.0</b>

<b>Skimmed Milk</b>	<b>Raw, boiled, pasteurised, flavoured and sterilised</b>	<b>All India</b>	<b>Not more than 0.5 percent</b>	<b>8.7</b>
<b>Full Cream Milk</b>	<b>Pasteurised and sterilised</b>	<b>All India</b>	<b>6.0</b>	<b>9.0</b>

NOTE :-(i) When milk is offered for sale without indication of the class the standards prescribed for buffalo milk shall apply.

(ii) The heat treatment for the various designated milk shall be as follows:

<b>Designation</b>	<b>Heat treatment</b>
Raw	Nil.
Pasteurised	Pasteurisation.
Boiled	Boiling
Flavoured	Pasteurisation or Sterilisation
Sterilised	Sterilisation

### **Regulation 5.1.2 CREAM:**

**1. CREAM** including sterilised cream means the product of cow or buffalo milk or a combination thereof. It shall be free from starch and other ingredients foreign to milk. It may be of following three categories, namely:-

1. Low fat cream--containing milk fat not less than 25.0 percent by weight.
2. Medium fat cream--containing milk fat not less than 40.0 percent by weight.
3. High fat cream--containing milk fat not less than 60.0 percent by weight.

**Note:-** Cream sold without any indication about milk fat content shall be treated as high fat cream.



**2. Cream Powder** means the product obtained by partial removal of water from cream obtained from milk of cow and / or buffalo. The fat and / or protein content of the cream may be adjusted by addition and/ or withdrawal of milk constituents in such a way as not to alter the whey protein to casein ratio of the milk being adjusted. It shall be of uniform colour and shall have pleasant taste and flavour free from off flavour and rancidity. It shall also be free from vegetable oil/ fat, mineral oil, added flavour and any substance foreign to milk.

The product may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:-

(i)	Moisture	Not more than 5.0 percent
(ii)	Milk fat	Not less than 42.0 percent
(iii)	Milk protein in Milk solid not fat	Not less than 34.0 percent

### **Regulation 5.1.3: MALAI**

**1. MALAI** means the product rich in butter fat prepared by boiling and cooling cow or buffalo milk or a combination thereof. It shall contain not less than 25.0 per cent milk fat.

### **Regulation 5.1.4: DAHI OR CURD**

**1. DAHI OR CURD** means the product obtained from pasteurised or boiled milk by souring, natural or otherwise, by a harmless lactic acid or other bacterial culture. Dahi may contain added cane sugar. Dahi shall have the same minimum percentage of milk fat and milk solids-not-fat as the milk from which it is prepared.

Where dahi or curd is sold or offered for sale without any indication of class of milk, the standards prescribed for dahi prepared from buffalo milk shall apply.

Milk solids may also be used in preparation of this product.

### **Regulation 5.1.5: CHHANA OR PANEER**

**1. CHHANA OR PANEER** means the product obtained from the cow

or buffalo milk or a combination thereof by precipitation with sour milk, lactic acid or citric acid. It shall not contain more than 70.0 per cent moisture and the milk fat content shall not be less than 50.0 per cent of the dry matter.

Milk solids may also be used in preparation of this product.

Provided that paneer or chhana when sold as low fat paneer or chhana, it shall conform to the following requirements:-

(i) Moisture	Not more than 70.0 percent
(ii) Milk fat	Not more than 15.0 percent of dry matter:

Provided further that such low fat paneer/chhana shall be sold in sealed package only and shall bear proper label declaration as provided in '**Article 38 of Regulation 4.4.4**'.

#### **Regulation 5.1.6: CHEESE**

" Cheese<sup>2</sup> (HARD) means the product obtained by draining after coagulation of milk with a harmless milk coagulating agent under the influence of harmless bacterial culture. It shall not contain ingredients not found in milk, except coagulating agent, sodium chloride, calcium chloride (anhydrous salt) not exceeding 0.02 percent by weight, annatto or carotene colour, and may contain emulsifiers and/or stabilizers, namely citric acid, sodium citrate or sodium salts of orthophosphoric acid and polyphosphoric acid (as linear phosphate) exceeding 0.2 percent by weight. Wax used for covering the outer surface shall not contain any thing harmful to health. In case the wax is coloured, only permitted food colour shall be used. Hard cheese shall contain not more than 43.0 percent moisture and not less than 42.0 percent milk fat of the dry matter. Hard cheese may contain up to 3000 parts per million sorbic acid, or its sodium, potassium or calcium salts calculated as sorbic acid, and/or 12.5 parts per million nisin either singly or in combination.

Natamycin may be used for surface treatment only, subject to the following conditions, namely:-

- (i) Maximum level of application shall not exceed 2 mg/dm<sup>3</sup> of cheese surface

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<sup>2</sup> The below mentioned standards for Cheese/ Yoghurt/ Ice cream/ Kulfi/ Chocolate/ Dried icecream mix are in force, the revised standards for these are pending final approval and are currently deferred till 6th September, 2010.

- (ii) The penetration depth shall not exceed 2 mm.
- (iii) The maximum residue level in the finished product shall not exceed 1 mg/dm<sup>3</sup>

**Cheese**<sup>3</sup> means the ripened or unripened soft or semihard, hard and extra hard product, which may be coated with food grade waxes or polyfilm, and in which the whey protein / casein ratio does not exceed that of milk. Cheese is obtained by coagulating wholly or partly milk and/ or products obtained from milk through the action of non-animal rennet or other suitable coagulating agents and by partially draining the whey resulting from such coagulation and/ or processing techniques involving coagulation of milk and/ or products obtained from milk which give a final product with similar physical, chemical and organoleptic characteristics. The product may contain starter cultures of harmless lactic acid and / or flavour producing bacteria and cultures of other harmless microorganisms, safe and suitable enzymes and sodium chloride. It may be in the form of blocks, slices, cut, shredded or grated cheese.

**i) Ripened Cheese** is cheese which is not ready for consumption shortly after manufacture but which must be held for some time at such temperature and under such other conditions as will result in necessary biochemical and physical changes characterizing the cheese in question.

**ii) Mould Ripened** cheese is a ripened cheese in which the ripening has been accomplished primarily by the development of characteristic mould growth through the interior and/ or on the surface of the cheese.

**iii) Unripened cheese** including fresh cheese is cheese which is ready for consumption shortly after manufacture.

Cheese or varieties of cheeses shall have pleasant taste and flavour free from off flavour and rancidity.

It may contain food additives permitted in **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**:

Provided that cheese or varieties of cheeses coated with food grade waxes/ or polyfilm / or wrapping of cloth shall bear proper label declaration as provided in **Article 39 of Regulation 4.4.4**. It shall conform to the following requirements:-

Product	Moisture	Milk Fat on Dry basis
(1)	(2)	(3)

<sup>3</sup> The deferred standards for	Cheese read as under.	
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(i) Hard Pressed Cheese	Not more than 39.0 percent	Not less than 48.0
(ii) Semi Hard Cheese	Not more than 45.0 percent	Not less than 40.0 percent
(iii) Semi Soft Cheese	Not more than 52.0 percent	Not less than 45.0 percent
(iv) Soft Cheese	Not more than 80.0 percent	Not less than 20.0 percent
(v) Extra Hard Cheese	Not more than 36.0 percent	Not less than 32.0 percent
(vi) Mozzarella Cheese	Not more than 60.0 percent	Not less than 35.0 percent
(vii) Pizza Cheese	Not more than 54.0 percent	Not less than 35.0 percent

**2.** " Processed Cheese" <sup>1</sup> means the product obtained by heating one or mote types of hard cheeses with permitted emulsifiers and/or stabilizers namely citric acid, sodium citrate, sodium salts of orthophoric acid and polyphosphoric acid (as linear phosphate) with or without added condiments, and acidifying agents, namely vinegar, lactic acid, acetic acid, citric acid and phosphoric acid. Processed cheese may contain not more than 4.0 percent of anhydrous permitted emulsifiers and/or stabilizers, provided that the content of anhydrous inorganic agents shall in no case exceed 3.0 percent of the finished product. It shall not contain more than 47.0 percent moisture. Processed cheese chiplets (packed sliced cheese) when sold in a package other than tin, shall not contain more than 50.0 percent moisture. The milk fat content shall not be less than 40.0 percent of the dry matter. Processed cheese may contain upto 3000 parts per million sorbic acid , or its sodium, potassium or calcium salts calculated as sorbic acid, and/or 12.5 parts per million nisin either singly or in combination. It may contain calcium chloride (anhydrous) not exceeding 0.02 percent by weight.

**Processed Cheese**<sup>2</sup> means the product obtained by grinding, mixing,

<sup>1</sup> The below mentioned standards for Processed Cheese (Regulation 5.1.6) are in force, the revised standards for these are pending final approval and are currently deferred till 6th September, 2010.

<sup>2</sup> The deferred standard for Processed Cheese are here as under

melting and emulsifying one or more varieties of cheeses with the aid of heat and emulsifying agents. It may contain cream, butter, butter oil and other milk products subject to maximum 5.0 percent lactose content in the final product and edible common salt, vinegar / acetic acid, spices and other vegetable seasoning and foods other than sugars properly cooked or prepared for flavouring and characterization of the product provided these additions do not exceed one sixth of the weight of the total solids of the final product on dry matter basis and cultures of harmless bacteria and enzymes. It shall have pleasant taste and smell free from off flavour and rancidity. It may contain food additives permitted in **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:-

(i)	Moisture	-	Not more than 47.0 percent
(ii)	Milk fat on dry basis	-	Not less than 40.0 percent.

PROVIDED that processed cheese chiplets (packed sliced cheese) when sold in a package other than tin, shall not contain more than 50.0 percent moisture.

**3. " Processed Cheese Spread<sup>1</sup>** means a product obtained by comminuting and mixing one or more types of cheese into a homogenous mass with the aid of heat. It may or may not contain butter, cream, butter oil, milk, skimmed milk, milk powder, cheese whey, sweet butter milk or one or more of these or any of these from which part of water has been removed. It may also contain permitted emulsifying and stabilizing agents. It may also contain one or more of the sodium/potassium salts of citric acid, phosphoric acid, tartaric acid, lactic acid in such quantities that mass of the solids of such emulsifying agents is not more than 4 percent of mass of the processed cheese spread. It may contain sequestering and buffering agents, namely, lactic acid, acetic acid, citric acid and phosphoric acid.

It may contain vegetable colouring matter such as annatto, carotene, permitted flavouring agents and milk coagulating enzymes with or without purified Calcium Chloride (anhydrous salt) not exceeding 0.02 percent and sodium citrate not exceeding 0.02 percent. it may contain natural sweetening agents, namely, sugar, dextrose cane sugar, corn

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<sup>1</sup> The below mentioned standards for Processed Cheese Spread (Regulation 5.1.6) are in force, the revised standards for these are pending final approval and are currently deferred till 6th September, 2010.

syrup, honey, corn syrup solid, maltose, malt syrup and hydrolyzed lactose in a quantity necessary for seasoning and spices and condiments. It may contain sodium Chloride not exceeding 3 percent by weight. Processed cheese spread may contain up to 3000 parts per million sorbic acid or its sodium, potassium salts calculated as sorbic acid and or 12.5 parts per million nisin. It shall not contain more than 60 percent moisture and milk fat content (on dry basis) shall not be less than 40 percent by weight.

**Processed Cheese Spread<sup>2</sup>** means the product obtained by grinding, mixing, melting and emulsifying one or more varieties of cheese with emulsifying agents with the aid of heat. It may contain Cream, Butter oil and other dairy products, subject to a maximum limit of 5.0 percent lactose in the final product, salt, vinegar, spices, condiments and seasonings, natural carbohydrate sweetening agents namely sucrose, dextrose, corn syrup, corn syrup solids, honey, maltose, malt syrup and hydrolysed lactose and food properly cooked or otherwise prepared for flavouring and characterization of the product provided these additions do not exceed one sixth of the weight of total solids of the final product on dry weight basis and cultures of harmless bacteria and enzymes. It shall have pleasant taste and flavour free from off flavour and rancidity. It may contain food additives permitted in **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:-

(i)	Moisture	-	Not more than 60.0 percent
(ii)	Milk fat on dry basis	-	Not less than 40.0 percent.

**4. Cheddar Cheese** means ripened hard cheese obtained by coagulating heated/pasteurised milk of Cow and/ or Buffalo or mixtures thereof with cultures of harmless lactic acid producing bacteria, non-animal rennet or other suitable coagulating enzymes. It shall be in the form of hard pressed block with a coating of food grade waxes or wrapping of cloth or polyfilm. It shall have firm, smooth and waxy texture with a pale straw to orange colour without any gas holes. It may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:—

(i)	Moisture	-	Not more than 39.0 percent
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<sup>2</sup> The deferred standard for Processed Cheese Spread are here as under

(ii)	Milk Fat on Dry Basis	- Not less than 48.0 percent
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**5. Danbo Cheese** means ripened semi hard cheese obtained by coagulating heated /pasteurised milk of cow and/ or Buffalo and mixtures thereof with cultures of harmless lactic acid producing bacteria, non-animal rennet or other suitable coagulating enzymes. It shall be smooth in appearance with firm texture and uniform yellow colour and may be coated with food grade waxes or wrapping of cloth or polyfilm. It may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:—

(i)	Moisture	Not more than 39.0 percent.
(ii)	Milk Fat on Dry Basis	Not less than 45.0 percent

**6. Edam Cheese** means the ripened semi hard cheese obtained by coagulating heated / pasteurised milk of Cow and / or Buffalo or mixtures thereof with cultures of harmless lactic acid producing bacteria non-animal rennet or other suitable coagulating enzymes. It shall have a firm texture suitable for cutting with a yellowish colour and a hard rind which may be coated with food grade waxes, wrapping of cloth, polyfilm or vegetable oil. It may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:—

(i)	Moisture	-	Not more than 46.0 percent.
(ii)	Milk Fat on Dry basis	-	Not less than 40.0 percent.

**7. Gouda Cheese** means ripened semi hard cheese obtained by coagulating milk of Cow and/ or Buffalo or mixtures thereof with cultures of harmless lactic acid producing bacteria non-animal / rennet or other suitable coagulating enzymes. It shall have firm texture suitable for cutting, straw to yellowish colour and a hard rind which may be coated with food grade waxes, wrapping of cloth, or vegetable oil. It may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:—

(i)	Moisture	Not more than 43.0 percent
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(ii) Milk Fat on Dry Basis	Not less than 48.0 percent.
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**8. Havarti Cheese** means ripened semi hard cheese obtained by coagulating milk of cow and / or Buffalo or mixtures thereof with cultures of harmless lactic acid producing bacteria, non-animal rennet or other suitable coagulating enzymes. It shall have firm texture suitable for cutting, a light yellow colour and may have a semi soft slightly greasy rind. It may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:—

Requirements	Havarti	30 percent Havarti	60 percent Havarti
(1)	(2)	(3)	(4)
Moisture	Not more than 48.0 percent	Not more Than 53.0 percent	Not more than 60.0 percent
Milk Fat on Dry basis Basis	Not less than 45.0 percent	Not less than 30.0 percent	Not less than 60.0 percent.

**9. Tilsiter** means ripened semi hard cheese obtained by coagulating milk of Cow and/ or Buffalo or mixtures thereof with cultures of harmless lactic acid producing bacteria and cultures of Bacterium linens, non-animal rennet or other suitable coagulating enzymes. It shall have firm texture suitable for cutting with a ivory to yellow colour with a firm rind which may show red and yellow smear producing bacteria or coated with food grade waxes or wrapping of cloth or polyfilm after removal of the smear. It may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:—

Requirement	Tilsiter	30 percent Tilsiter	60 percent Tilsiter
(1)	(2)	(3)	(4)



Moisture	Not more than 47.0 percent	Not more than 53.0 percent	Not more than 39.0 percent
Milk fat on Dry Basis	Not less than 45.0 percent	Not less than 30.0 percent	Not less than 60.0 percent

**10. Cottage Cheese and Creamed Cottage Cheese** means soft unripened cheese obtained by coagulation of pasteurised skimmed milk of Cow and/ or Buffalo or mixtures thereof with cultures of harmless lactic acid bacteria with or without the addition of other suitable coagulating enzymes. Creamed Cottage Cheese is cottage cheese to which a pasteurised creaming mixture of cream, skimmed milk, condensed milk, non fat dry milk, dry milk protein, Sodium/ Potassium/ Calcium/ Ammonium caseinate is added. It shall have a soft texture with a natural white colour. It may contain spices, condiments, seasonings and fruits pulp. It may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:-

(i)	Moisture	Not more than 80.0 percent
(ii)	Milk Fat(in Creamed Cottage Cheese)	Not less than 4.0 percent

**11. Cream Cheese (Rahmfrischkase)** means soft unripened cheese obtained by coagulation of pasteurised milk of cow and / or buffalo or mixtures thereof and pasteurised cream with cultures of harmless lactic acid producing bacteria with or without the addition of suitable coagulating enzymes. It shall have a soft smooth texture with a white to light cream colour. It may contain spices, condiments, seasonings and fruits pulp. The product may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:—

(i)	Moisture	Not more than 55.0 percent.
(ii)	Milk Fat on Dry Basis	Not less than 70.0 percent.

**12. Coulommiers Cheese** means soft unripened cheese obtained by

coagulation of milk of cow and /or buffalo or mixtures thereof with cultures of harmless lactic acid producing bacteria and non-animal rennet or other suitable coagulating enzymes and moulds characteristic of the variety. It shall have soft texture and white to cream yellow colour and may show presence of white mould including orange or red spots on the surface. It may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:—

(i) Moisture	Not more than 56.0 percent
(ii) Milk Fat on Dry Basis	Not less than 46.0 percent

**13. Camembert Cheese** means ripened soft cheese obtained by coagulating milk of Cow and/ or Buffalo or mixtures thereof with cultures of harmless lactic acid producing bacteria and cultures of *Penicillium caseicolum* and *Bacterium linens* non-animal rennet or other suitable coagulating enzymes. It may be in the form of flat cylindrical shaped cheese covered with white mould (*Penicillium caseicolum*) with occasional orange coloured spots (*Bacterium linens*). It may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:—

<b>Requirements</b>	<b>30.0 percent Camembert cheese</b>	<b>40.0 percent Camembert cheese</b>	<b>45.0 percent Camembert cheese</b>	<b>50.0 percent Camembert cheese</b>
(1)	(2)	(3)	(4)	(5)
Moisture	Not more than 62.0 percent	Not more than 56.0 percent	Not more than 56.0 percent	Not more than 56.0 percent
Milk fat on Dry Basis	Not less than 30.0 percent	Not less than 40.0 percent	Not less than 45.0 percent	Not less than 50.0 percent

**14. Brie Cheese** means soft ripened cheese obtained by coagulating milk of Cow and/ or Buffalo or mixtures thereof with cultures of harmless

lactic acid producing bacteria and cultures of Penicillium caseicolum and Bacterium linens, non-animal rennet and other suitable enzymes. It shall be white to creamy yellow in colour with a smooth texture showing presence of white mould (Penicillium caseicolum) with occasional orange coloured spots (Bacterium linens) on the rind. It may contain food additives permitted in **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**.

It shall conform to the following requirements:-

(i)	Moisture	Not more than 56.0 percent
(ii)	Milk Fat on Dry basis	Not less than 40.0 percent

**15. Saint Paulin** - means ripened semi hard cheese obtained by coagulating milk of Cow and / or Buffalo or mixtures thereof with non-animal rennet, cultures of harmless lactic acid producing bacteria or other suitable enzymes. It shall have white to yellow colour with a firm and flexible texture and a hard rind which may be coated with food grade waxes or polyfilm. It may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:—

(i)	Moisture	Not more than 56.0 percent
(ii)	Milk Fat on Dry Basis	Not less than 40.0 percent

**16. Samsoe** means hard ripened cheese obtained by coagulating milk of Cow and /or Buffalo or combination there of with non-animal rennet and cultures of harmless lactic acid producing bacteria or suitable coagulating enzymes. It shall be yellow in colour with a firm texture suitable for cutting and may have a rind with or without food grade waxes or polyfilm coating. It may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:—

Requirements	Samsoe	30 percent Samsoe
(1)	(2)	(3)

(i) Moisture	Not more than 44.0 percent	Not more than 50.0 percent
(ii) Milk Fat on Dry Basis	Not less than 45.0 percent	Not less than 30.0 percent

**17. Emmentaler** means hard ripened cheese with round holes obtained by coagulating milk of Cow and/ or Buffalo or mixtures thereof with non-animal rennet, cultures of harmless lactic acid producing bacteria or other suitable coagulating enzymes. It may contain Cupric Sulphate not exceeding 15 mgm/Kg expressed as Copper. It shall have a light Yellow colour and a firm texture suitable for cutting and may have a hard rind. It may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**.

It shall conform to the following requirements:-

(i) Moisture	Not more than 40.0 percent.
(ii) Milk Fat on Dry Basis	Not less than 45.0 percent

**18. Provolone** means pasta filata cheese obtained by coagulating milk of Cow and/ or Buffalo or mixtures thereof with cultures of harmless lactic acid producing bacteria, non-animal rennet or other suitable coagulating enzymes. It may be smoked. It shall be white to yellow straw in colour with a fibrous or smooth body and rind which may be covered with vegetable fat/ oil, food grade waxes or polyfilm. It may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:—

(i)	Moisture -	
	(a) Unsmoked Cheese	Not more than 47.0 percent
	(b) Smoked Cheese	Not more than 45.0 percent
(ii)	Milk Fat on Dry Basis	Not less than 45.0 percent

**19. Extra Hard Grating Cheese** means ripened cheese obtained by coagulating milk of Cow and/ or Buffalo, goat/ sheep milk or mixtures thereof with cultures of harmless lactic acid producing bacteria, non-animal rennet, or other suitable coagulating enzymes. It may be white to light cream in colour with a slightly brittle texture and an extra hard rind

which may be coated with vegetable oil, food grade waxes or polyfilm. It may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:—

(i) Moisture	Not more than 36.0 percent
(ii) Milk Fat on Dry Basis	Not less than 32.0 percent

### **Regulation 5.1.7: DAIRY BASED DESSERTS/ CONFECTIONS**

**1 " Ice Cream, Kulfi and Chocolate**<sup>1</sup> Ice Cream means frozen product obtained from cow or buffalo milk or a combination thereof or from cream and/or other milk products, with or without the addition of cane sugar, dextrose, liquid glucose and dried liquid glucose, Maltodextrin, eggs, fruits, fruit juices, preserved fruits, nuts, chocolate, edible flavours and permitted food colours. It may contain permitted stabilizers and emulsifiers not exceeding 0.5 percent by weight. The mixture shall be suitably heated before freezing. The product shall contain not less than 10.0 percent milk fat, 3.5 percent protein and 36.0 percent total solids.

Starch may be added to a maximum extent of 5.0 percent under a declaration on a label as specified in **Regulation 4.2.2**

The standards for ice cream shall also apply to softy ice-cream.

In case of ice-cream, where the chocolate or like covering portion forms a separate layer, only the ice-cream portion shall conform to the standards of ice-cream.

**Ice Cream, Kulfi, Chocolate Ice Cream or Softy Ice Cream**<sup>2</sup> means the product obtained by freezing a pasteurised mix prepared from milk and/ or other products derived from milk with the addition of nutritive sweetening agents e.g. Sugar, Dextrose, Fructose, Liquid Glucose, Dried liquid glucose, maltodextrin, high maltose corn syrup, honey, fruit and fruit products, eggs and egg products, coffee, cocoa, ginger and nuts. It

<sup>1</sup> The below mentioned standards for Ice Cream, Kulfi and Chocolate (Regulation 5.1.7) are in force, the revised standards for these are pending final approval and are currently deferred till 6th September, 2010.

<sup>2</sup> The deferred standard for Ice Cream, Kulfi and Chocolate are here as under

may also contain Chocolate, and bakery products such as Cake, or Cookies as a separate layer and / or coating. It may be frozen hard or frozen to a soft consistency. It shall be free from artificial sweetener. It shall have pleasant taste and smell free from off flavour and rancidity. It may contain food additives permitted in **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:—

<i>Requirement</i>	<i>Ice Cream</i>	<i>Medium Fat Ice Cream</i>	<i>Low Fat Ice Cream</i>
(1)	(2)	(3)	(4)
Total Solid	Not less than 36.0 percent	Not less than 30.0 percent	Not less than 26.0 percent
Wt/Vol (gms/1)	Not less than 525	Not less than 475	Not less than 475
Milk Fat	Not less than 10.0 percent	Not less than 5.0 percent but less than 10.0 percent	Not more than 2.5 percent
Milk Protein (Nx6.38)	Not less than 3.5 percent	Not less than 3.5 percent	Not less than 2.5 percent

**Note:** In case where Chocolate, Cake or similar food coating, base or layer forms a separate part of the product only the Ice Cream portion shall conform to the requirements given above. The type of ice-cream shall be clearly indicated on the label otherwise standard for ice-cream shall apply.

**2. Dried Ice Cream Mix<sup>1</sup>** shall be the material prepared by spray or other roller drying of ice-cream mix. It shall contain milk solids, sucrose or corn syrup or refined sugar. It may contain permitted colours and flavours. It may contain stabilizers and emulsifiers not exceeding 1.25 percent by weight. The product shall contain not less than 27.0 percent milk fat and 9.5 percent protein and moisture shall not be more than 4 percent by weight. The sucrose content shall be not more than 40 percent by weight.

The process of drying shall be mentioned on the table. It shall be packed in hermetically sealed containers.

<sup>1</sup> The below mentioned standards for Ice Cream, Kulfi and Chocolate (Regulation 5.1.7) are in force, the revised standards for these are pending final approval and are currently deferred till 6th September, 2010.

**Dried Ice Cream Mix/ Dried Frozen Dessert/ Confection<sup>2</sup>** means the product in a powder form which on addition of prescribed amount of water shall give a product conforming to the requirements of the respective products, namely - ice cream, medium fat ice-cream, low fat ice-cream as prescribed under **Article 1 of Regulation 5.1.7** and frozen confection, medium fat frozen confection and low fat frozen confection as prescribed under **Article 3 of 5.1.7** of these regulations except the requirement of weight /volume for both the products. The moisture content of the product shall not be more than 4.0 percent. It may contain food additives permitted in **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**.

**3. Frozen Dessert / Frozen Confection<sup>3</sup>** means the product obtained by freezing a pasteurised mix prepared with milk fat and / or edible vegetable oils and fat having a melting point of not more than 37.0 degree C in combination and milk protein alone or in combination / or vegetable protein products singly or in combination with the addition of nutritive sweetening agents e.g. sugar, dextrose, fructose, liquid glucose, dried liquid glucose, maltodextrin, high maltose corn syrup, honey, fruit and fruit products, eggs and egg products coffee, cocoa, ginger, and nuts. It may also contain chocolate, cake or cookies as a separate layer or coating. It may be frozen hard or frozen to a soft consistency. It shall be free from artificial sweetener. It shall have pleasant taste and flavour free from off flavour and rancidity. The product may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:-

Requirement	Frozen Dessert/ Frozen Confection	Medium Fat Frozen Dessert/ Frozen Confection	Low Fat Frozen Dessert/ Frozen Confection
(1)	(2)	(3)	(4)
Total Solid	Not less than 36.0 percent	Not less than 30.0 percent	Not less than 26.0 percent
Wt/Vol (gms/1)	Not less than 525	Not less than 475	Not less than 475
Total Fat	Not less than 10.0	Not less than	Not more than

<sup>2</sup> The deferred standards for Dried Ice Cream Mix are here as under

<sup>3</sup> The said standards for Frozen Dessert/ Frozen confection are deferred till 6th September and will be functional and operational on or after 7th September.

	percent	5.0 percent but less than 10.0 percent	2.5 percent
Total Protein (N x 6.25)	Not less than 3.5 percent	Not less than 3.5 percent	Not less than 2.5 percent

**Note:-** In case where Chocolate, Cake or similar food coating, base or layer forms a separate part of the product only the frozen dessert/ confection portion shall conform to the requirements given above. The type of frozen confection shall be clearly indicated on the label otherwise, standards of frozen dessert / frozen confection shall apply and every package of Frozen Dessert / Frozen Confection shall bear proper label declaration under **Article 40 of Regulation 4.4.4.**

**4. "Milk Ices or Milk Lollies<sup>1</sup>** means the frozen product obtained from milk, skimmed milk or milk product with or without the addition of cane sugar, dextrose, liquid glucose, and dried glucose, eggs, fruits, nuts, chocolate, edible flavours and permitted food colours. It may contain permitted stabilizers not exceeding 0.5 percent of the product. The mixture shall be suitably heat-treated before freezing. The product shall contain not more than 2.0 percent milk fat, not less than 3.5 percent proteins and not less than 20.0 percent total solids.

**Milk Ice or Milk Lolly<sup>2</sup>** means the product obtained by freezing a pasteurised mix prepared from milk and / or other products derived from milk with the addition of natural sweetening agents i.e. Sugar, Dextrose, Fructose, Liquid glucose, Dried liquid glucose, maltodextrin, honey, fruit and fruit products, eggs and egg products, coffee, cocoa, ginger, and nuts. It may also contain Chocolate, and bakery products such as Cake or Cookies as a separate layer and /or coating. It shall be free from artificial sweetener. It shall have pleasant taste and smell free from off flavour and rancidity. It may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:-

(1)	Total solids (m/m)	Not less than 20.0 percent
(2)	Milk Fat (m/m)	Not more than 2.0 percent
(3)	Milk Protein (Nx6.38)	Not less than 3.5 percent

<sup>1</sup> The below mentioned standards for Milk Ices or Milk Lollies (Regulation 5.1.7) are in force, the revised standards for these are pending final approval and are currently deferred till 6th September, 2010.

<sup>2</sup> The deffered standard for Milk Ices or Milk Lollies are here as under



**5. KHOYA** by whatever variety of names it is sold such as Pindi, Danedar, Dhap, Mawa or Kava means the product obtained from cow or buffalo or goat or sheep milk or milk solids or a combination thereof by rapid drying. The milk fat content shall not be less than 30 percent on dry weight basis of finished product. It may contain citric acid not more than 0.1 per cent by weight. It shall be free from added starch, added sugar and added colouring matter.

**Regulation 5.1.8: EVAPORATED/ CONDENSED MILK & MILK PRODUCTS**

**1. Evaporated Milk** means the product obtained by partial removal of water from milk of cow and/ or buffalo by heat or any other process which leads to a product of the same composition and characteristics. The fat and protein content of the milk may be adjusted by addition and/ or withdrawal of milk constituents in such a way as not to alter the whey protein to casein ratio of the milk being adjusted. It shall have pleasant taste and flavour free from off flavour and rancidity. It shall be free from any substance foreign to milk. It may contain food additives permitted in **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:—

Product	Milk Fat	Milk Solids	Milk Protein in milk solids not fat
(1)	(2)	(3)	(4)
(i)Evaporated milk	Not less than 8.0 percent m/m	Not less than 26.0 percent m/m	Not less than 34.0 percent m/m
(ii)Evaporate partly skimmed milk	Not less than 1.0 percent and not more than 8.0 percent m/m	Not less than 20.0 percent m/m	Not less than 34.0 percent m/m
(iii)Evaporated skimmed milk	Not more than 1.0 percent m/m	Not less than 20.0 percent m/m	Not less than 34.0 percent m/m
(iv)Evaporated	Not less	Not less	Not less than 34.0 percent

high fat milk	than 15.0 percent m/m	than 11.5 percent m/m	m/m
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**2. Sweetened Condensed Milk** means the product obtained by partial removal of water from milk of Cow and / or Buffalo with the addition of sugar or a combination of sucrose with other sugars or by any other process which leads to a product of the same composition and characteristics. The fat and/ or protein content of the milk may be adjusted by addition and / or withdrawal of milk constituents in such a way as not to alter the whey protein to casein ratio of the milk being adjusted. It shall have pleasant taste and flavour free from off flavour and rancidity. It shall be free from any substance foreign to milk. It may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:—

Product	Milk Fat	Milk Solids	Milk Protein in milk solids not fat
(1)	(2)	(3)	(4)
(i) Sweetened condensed milk	Not less than 9.0 percent m/m	Not less than 31.0 percent m/m	Not less than 34.0 percent m/m
(ii) Sweetened condensed skimmed milk	Not more than 1.0 percent m/m	Not less than 26.0 percent m/m	Not less than 34.0 percent m/m
(iii) Sweetened condensed partly skimmed milk	Not less than 3.0 percent m/m and not more than 9.0 percent m/m	Not less than 28.0 percent m/m	Not less than 34.0 percent m/m
(iv) Sweetened condensed high fat milk	Not less than 16.0 percent m/m	Not less than 30.0 percent m/m	Not less than 34.0 percent m/m

**3. Milk Powder** - means the product obtained by partial removal of water from milk of Cow and / or Buffalo. The fat and / or protein content

of the milk may be adjusted by addition and/ or withdrawal of milk constituents in such a way as not to alter the whey protein to casein ratio of the milk being adjusted. It shall be of uniform colour and shall have pleasant taste and flavour free from off flavour and rancidity. It shall also be free from vegetable oil/ fat, mineral oil, thickening agents, added flavour and sweetening agent. It may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:-

<b>Product</b>	<b>Moisture</b>	<b>Milk Fat</b>	<b>Milk protein in milk solids and not fat</b>	<b>Titration acidity (ml 0.1N NAOH / 10 gm solids not fat)</b>	<b>Solubility Percent</b>	<b>Total ash on dry weight basis</b>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(i) Whole milk powder	Not more than 4.0 percent m/m	Not less than 26.0 percent m/m	Not less than 34.0 percent m/m	Not more than 18.0	Not less than 99	Not more than 7.3 percent
(ii) Partly skimmed milk powder	Not more than 5.0 percent	Not less than 1.5 percent m/m and not more than 26.0 percent m/m	Not less than 34.0 percent m/m	Not more than 18.0	Not less than 99	Not more than 8.2 percent
(iii) Skimmed milk powder	Not more than 5.0 percent	not more than 1.5 percent m/m	Not less than 34.0 percent m/m	Not more than 18.0	Not less than 99	Not more than 8.2 percent

**Regulation 5.1.9: FOODS FOR INFANT NUTRITION**

**1. Infant Milk Food** means the product prepared by spray drying of the milk of cow or buffalo or a mixture thereof. The milk may be modified by the partial removal/substitution of different milk solids; carbohydrates, such as sucrose, dextrose and dextrans/maltodextrin, maltose and lactose; salts like phosphates and citrates; vitamins A, D, E, B Group, Vitamin C and other vitamins; and minerals like iron, copper, zinc and iodine. The source of Mineral Salts and Vitamin Compounds may be used from:-

- 1. Calcium (Ca)** - Calcium carbonate, Calcium chloride, Calcium citrate, Calcium phosphate monobasic, Calcium phosphate dibasic, Calcium phosphate tribasic;
- 2. Phosphorous (P)** - Calcium phosphate monobasic, Calcium phosphate dibasic, Calcium phosphate tribasic, Magnesium phosphate dibasic, Potassium phosphate dibasic;
- 3. Chloride (Cl)** - Calcium chloride, Choline chloride, Magnesium chloride, Manganese chloride, Sodium chloride, Sodium chloride iodized;
- 4. Iron (Fe)** - Ferrous citrate, Ferrous lactate, Ferrous sulphate, Ferric pyrophosphate;
- 5. Magnesium (Mg)** - Magnesium chloride, Magnesium oxide, Magnesium phosphate dibasic;
- 6. Sodium (Na)** - Sodium bicarbonate, Sodium chloride, Sodium chloride iodized, Sodium citrate, Sodium phosphate monobasic;
- 7. Potassium (K)** - Potassium phosphate dibasic;
- 8. Copper (Cu)** - Cupric citrate, Cupric sulphate;
- 9. Iodine (I)** - Potassium iodide, Sodium iodide;
- 10. Zinc (Zn)** - Zinc sulphate;
- 11. Manganese (Mn)** - Manganese chloride, Manganese sulphate;
- 12. Vitamin A** - Retinyl acetate, Retinyl palmitate, Retinyl propionate;
- 13. Provitamin A** - Beta-carotene;
- 14. Vitamin D** - Vitamin D<sub>2</sub> - Ergocalciferol, Vitamin D<sub>3</sub> - Cholecalciferol, Cholecalciferol-cholesterol;
- 15. Vitamin E** - d-alpha-tocopherol, dl-alpha-tocopherol, d-alpha-tocopheryl acetate, dl-alpha-tocopheryl acetate, d-alpha-tocopheryl succinate, dl-alpha-tocopheryl succinate;
- 16. Thiamine (Vitamin B<sub>1</sub>)** - Thiamine chloride hydrochloride, Thiamine mononitrate;
- 17. Riboflavin (Vitamin B<sub>2</sub>)** - Riboflavin, Riboflavin 5' -phosphate sodium;

- 18.Niacin** - Nicotinamide, Nicotinic acid;  
**19.Vitamin B<sub>6</sub>** - Pyridoxine hydrochloride;  
**20.Biotin (Vitamin H)** - d-biotin;  
**21.Folacin** - Folic acid;  
**22.Pantothenic acid** - Calcium pantothenate, Panthenol;  
**23.Vitamin B<sub>12</sub>** - Cyanocobalamin, Hydroxycobalamin;  
**24.Vitamin K** - Phytylmenaquinone;  
**25.Vitamin C** - Ascorbic acid, Sodium ascorbate, Calcium ascorbate, Ascorbyl-6-palmitate;  
**26.Choline** - Choline bitartrate, Choline chloride;  
**27.Inositol**;  
**28.Selenium** - Sodium selenite.

The product shall be free of lumps and shall be uniform in appearance. It shall be free from starch and added antioxidants. It shall also be free from dirt, extraneous matter, preservatives and added colour and flavour and from any material which is harmful to human health. It shall not have rancid taste or musty odour. It shall not contain food additives.

It shall conform to the following requirements, namely:-

1.	Moisture, per cent by weight (not more than)	4.5
2.	Total milk protein, per cent by weight (not less than)	12.0
3.	Milk fat, per cent by weight (not less than)	18.0
4.	Total ash, per cent by weight (not more than)	8.5
5.	Ash insoluble in dilute Hydrochloric acid, per cent by weight (not more than)	0.1
6.	Solubility:	
	Solubility Index maximum	2.0 ml
	Solubility per cent by weight (not less than)	98.5
7.	Vitamin A (as retinol) µg. per 100 g. (not less than)	350 µg
8.	Added Vitamin D (expressed as Cholecalciferol or Ergocalciferol) µg per 100g. (not less than)	4.5 µg
9.	Vitamin C, mg per 100 g. (not less than)	35 mg
10.	Thiamine, µg per 100 g. (not less than)	185 µg
11.	Riboflavin, µg per 100 g. (not less than)	275 µg
12.	Niacin, µg per 100 g. (not less than)	1160 µg
13.	Pyridoxine µg per 100 g. (not less than)	160 µg
14.	Folic acid, µg per 100 g. (not less than)	20 µg

15.	Pantothenic acid, mg per 100 g. (not less than)	1.4 mg
16	Vitamin B <sub>12</sub> , µg per 100 g. (not less than)	0.7 µg
17	Choline, mg per 100 g. (not less than)	32 mg
18	Vitamin K µg per 100 g. (not less than)	18 µg
19	Biotin, µg per 100 g. (not less than)	7.0 µg
20	Sodium mg per 100 g. (not less than)	90 mg
21	Potassium, mg per 100 g. (not less than)	370 mg
22	Chloride, mg per 100 g. (not less than)	250 mg
23	Calcium, mg per 100 g. (not less than)	230 mg
24	Phosphorous, mg per 100 g. (not less than)	115 mg
25	Magnesium, mg per 100 g. (not less than)	22 mg
26	Iron, mg per 100 g. (not less than)	5.0 mg
27	Iodine, µg per 100 g. (not less than)	20 µg
28	Copper, µg per 100 g. (not less than)	280 µg
29	Zinc, mg per 100 g. (not less than) and not more than	2.5 mg 5.0 mg
30	Manganese, µg per 100g. (not less than)	20 µg
31	Selenium, µg per 100 g. (not less than)	14 µg
32.	Bacterial count, per g. (not more than)	10,000
33	Coliform count absent in	0.1 gram
34	Yeast and mould count absent in	0.1 gram
35	Salmonella and Shigella absent in	25 gram
36	E. coli absent in	0.1 gram
37	Staphylococcus aureas absent in	0.1 gram

It shall be packed in hermetically sealed, clean and sound containers or in flexible pack made from film or combination or any of the substrate made of Board paper, polyethylene, polyester metallised film or in such a way to protect from deterioration.

It may be packed in nitrogen or a mixture of nitrogen and carbon dioxide.

**2. INFANT FORMULA** means the product prepared by spray drying of the milk of cow or buffalo or mixture thereof. The milk may be modified by partial removal/substitution of milk fat with vegetable oils rich in polyunsaturated fatty acids and/or by different milk solids; carbohydrates such as sucrose, dextrose and dextrans/ maltodextrin, maltose and lactose; salts such as phosphates and citrates; vitamins A, D, E, B and C group and other vitamins; minerals such as iron, copper, zinc and iodine and others. Vegetables oils rich in polyunsaturated fatty acids shall be added to partially substitute milk fat to an extent that the product shall contain a minimum of 12 per cent by weight of milk fat and

a minimum of linoleate content of 1.398 g per 100 g. of the product.

The products shall also contain a minimum of 0.70 I.U. of vitamin E per 100 kcal. It may contain in addition to the vitamins and minerals listed, other nutrients may be added when required in order to provide nutrients ordinarily found in human milk such as, -

1.	Carotenes	Not less than 0.25 mg/L
2.	Fluorine	Not less than 0.107 mg/L
3.	Amino acids	Not less than 9 mg/L (only L forms of amino acids should be used)
4.	Non-protein nitrogen	Not less than 173 mg/L
5.	Nucleotides	Not less than 11.7 mg/L
6.	Carnitine	Not less than 11.27 µg/L
7.	Lactalbumin	Not less than 1.4 g/L
8.	Lactoferrin	Not less than 0.27 g/L
9.	Lysozyme	Not less than 0.8 g/L
10.	Fucose	Not less than 1.3 g/L
11.	Glucosamine	Not less than 0.7 g/L
12.	Inositol	Not less than 0.39 g/L
13.	Citric acid	Not less than 0.35 g/L
14.	Cholesterol	Not less than 88 mg/L
15.	Lipid Phosphorus	Not less than 7 mg/L
16.	Prostaglandins	Not less than PGE 150 mg/L Not less than PGF 400 mg/L

When any of these nutrients is added, the amount of these added nutrients shall be declared on the label, which should be not less than mentioned. It may contain medium chain triglycerides, taurine, molybdenum and chromium.

The source of Mineral Salts and Vitamin Compounds may be used from:-

**(1) Calcium (Ca)** - Calcium carbonate, Calcium chloride, Calcium citrate, Calcium phosphate monobasic, Calcium phosphate dibasic, Calcium phosphate tribasic;

**(2) Phosphorous (P)** - Calcium phosphate monobasic, Calcium phosphate dibasic, Calcium phosphate tribasic, Magnesium phosphate dibasic, Potassium phosphate dibasic;

**(3) Chloride (Cl)** - Calcium chloride, Choline chloride, Magnesium chloride, Manganese chloride, Sodium chloride,

- Sodium chloride iodized;
- (4) Iron (Fe)** - Ferrous citrate, Ferrous lactate, Ferrous sulphate, Ferric pyrophosphate;
  - (5) Magnesium (Mg)** - Magnesium chloride, Magnesium oxide, Magnesium phosphate dibasic;
  - (6) Sodium (Na)** - Sodium bicarbonate, Sodium chloride, Sodium chloride iodized, Sodium citrate, Sodium phosphate monobasic;
  - (7) Potassium (K)** - Potassium phosphate dibasic;
  - (8) Copper (Cu)** - Cupric citrate, Cupric sulphate;
  - (9) Iodine (I)** - Potassium iodide, Sodium iodide;
  - (10) Zinc (Zn)** - Zinc sulphate;
  - (11) Source of Manganese (Mn)** - Manganese chloride, Manganese sulphate.

### **Vitamins**

- 1. Vitamin A** - Retinyl acetate, Retinyl palmitate, Retinyl propionate;
- 2. Provitamin A** - Beta-carotene;
- 3. Vitamin D** - Vitamin D<sub>2</sub> - Ergocalciferol, Vitamin D<sub>3</sub> - Cholecalciferol, Cholecalciferol-cholesterol;
- 4. Vitamin E** - d-alpha-tocopherol, dl-alpha-tocopherol, d-alpha-tocopheryl acetate, dl-alpha-tocopheryl acetate, d-alpha-tocopheryl succinate, dl-alpha-tocopheryl succinate;
- 5. Thiamine (Vitamin B<sub>1</sub>)** - Thiamine chloride hydrochloride, Thiamin mononitrate;
- 6. Riboflavin (Vitamin B<sub>2</sub>)** - Riboflavin, Riboflavin 5' -phosphate sodium;
- 7. Niacin** - Nicotinamide, Nicotinic acid;
- 8. Vitamin B<sub>6</sub>** - Pyridoxine hydrochloride;
- 9. Biotin (Vitamin H)** - d-biotin;
- 10. Folacin** - Folic acid;
- 11. Pantothenic acid** - Calcium pantothenate, Panthenol;
- 12. Vitamin B<sub>12</sub>** - Cyanocobalamin, Hydroxycobalamin;
- 13. Vitamin K** - Phytylmenaquinone;
- 14. Vitamin C** - Ascorbic acid, Sodium ascorbate, Calcium ascorbate, Ascorbyl-6-palmitate;
- 15. Choline** - Choline bitartrate, Choline chloride;
- 16. Inositol;**
- 17. Selenium** - Sodium selenite.

The product shall be free of lumps and shall be uniform in appearance. It shall be free from added starch, added colour and added flavour. It shall not have rancid taste and musty odour.



It may contain food additive listed below, -

<b>Food Additives</b>	<b>Maximum level in 100 ml of the ready-to-drink product</b>
<b>pH – adjusting agents</b> Sodium hydroxide Sodium hydrogen carbonate Sodium carbonate Potassium Hydroxide Potassium hydrogen Carbonate Potassium Carbonate Calcium hydroxide	Limited by good manufacturing practice and within the limits for Sodium and Potassium in all types of infant formulae
Sodium Citrate Potassium Citrate L (+) Lactic Acid L (+) Lactic acid producing cultures Citric Acid  Antioxidants Mixed tocopherols concentrate and L-Ascorbyl palmitate	Limited by good manufacturing practice in all types of infant formulae       1 mg in all types of infant formulae
Mono and Diglycerides	0.4 gram

It shall conform to the following requirements namely:

1.	Moisture, per cent by weight (not more than)	4.5
2.	Total milk protein, per cent by weight (not less than) and	10.0
	not more than	16.0
3.	Total fat, percent by weight (not less than)	18.0
	Milk Fat, percent by weight (not less than)	12.0

	Linoleate per 100 gram (not less than)	1.398g
4.	Total ash, per cent by weight (not more than)	8.5
5	Ash insoluble in dilute Hydrochloric acid, per cent by weight (not more than)	0.1
6	(a) Solubility: (a) Solubility Index maximum	2.0 ml
	(b) Solubility per cent by weight (not less than)	98.5
7.	Vitamin A (as retinol) µg. per 100 g. (not less than)	350 µg
8.	Added Vitamin D (expressed as Cholecalciferol or Ergocalciferol) µg. per 100g. (not less than)	4.5 µg
9.	Vitamin C, mg per 100 g. (not less than)	35 mg
10.	Thiamine, µg per 100 g. (not less than)	185 µg
11.	Riboflavin, µg per 100 g. (not less than)	275 µg
12.	Niacin, µg per 100 g. (not less than)	1160 µg
13.	Pyridoxine µg per 100 g. (not less than)	160 µg
14.	Folic acid, µg per 100 g. (not less than)	20 µg
15.	Pantothenic acid, mg per 100 g. (not less than)	1.4 mg
16.	Vitamin B <sub>12</sub> , µg per 100 g. (not less than)	0.7 µg
17.	Choline, mg per 100 g. (not less than)	32 mg
18.	Vitamin K µg per 100 g. (not less than)	18 µg
19.	Biotin, µg per 100 g. (not less than)	7.0 µg
20.	Vitamin E (as a-tocopherol compounds) IU per 100g. (not less than)	3.15 IU
21.	Sodium mg per 100 g. (not less than)	90 mg
22.	Potassium, mg per 100 g. (not less than)	370 mg
23.	Chloride, mg per 100 g. (not less than)	250 mg
24.	Calcium, mg per 100 g. (not less than)	230 mg
25.	Phosphorous, mg per 100 g. (not less than)	115 mg
26.	Magnesium, mg per 100 g. (not less than)	22 mg
27.	Iron, mg per 100 g. (not less than)	5.0 mg
28.	Iodine, µg per 100 g. (not less than)	20 µg
29.	Copper, µg per 100 g. (not less than)	280 µg
30.	Zinc, mg per 100 g. (not less than) and not more than	2.5 mg 5.0 mg
31.	Manganese, µg per 100g. (not less than)	20 µg
32.	Selenium, µg per 100 g. (not less than)	14 µg
33.	Bacterial count, per g. (not more than)	10,000

34.	Coliform count absent in	0.1 gram
35.	Yeast and mould count absent in	0.1 gram
36.	Salmonella and Shigella absent in	25 gram
37.	E. coli absent in	0.1 gram
38.	Staphylococcus aureas absent in	0.1 gram

### **Premature/Low birth weight infant milk substitutes-**

Provided that the premature/low birth weight infant milk substitutes shall also meet the following requirement in addition to the requirements mentioned above:-

1. Protein shall be 2.25 - 2.75 gram per 100 kcal
2. Mineral contents shall not be less than 0.5 gram per 100 kcal. The Calcium: Phosphorous ratio shall be 2:1. The Sodium, Potassium and Chloride combined together shall be not less than 40 milli equivalent per Litre;
3. Whey: Casein ratio shall be 60:40. Essential amino acids should include taurine, cystine, tyrosine and histidine;

### **Lactose free infant milk substitute**

### **Lactose and sucrose free infant milk substitute Sucrose free infant milk substitute**

Provided that the lactose free or lactose and sucrose free or sucrose free infant milk substitutes shall also meet the following requirement in addition to the requirements mentioned in the standard, provided that in these three products edible vegetable oil may be used in place of milk fat and lecithin may be used as an emulsifier:-

1. Soy protein-based, lactose-free formula shall have soy-protein and carbohydrate as glucose, dextrose, dextrin/maltodextrin, maltose and/or sucrose;
2. Lactose-free cow's/buffalo's milk-based formulas shall have carbohydrate as glucose, dextrose, dextrin/maltodextrin, maltose and sucrose.

### **Hypoallergenic infant milk substitutes**

Provided that the Hypoallergenic infant milk substitutes shall also meet the following requirement in addition to the requirements mentioned in the standard:-

1. Protein shall be hydrolyzed whey or casein or;
2. 100% free amino acids as a protein source;

It shall be packed in hermetically sealed, clean and sound containers or in flexible pack made from film or combination or any of the substrate made of Board paper, polyethylene, polyester metallised film or in such a way to protect from deterioration. It shall be packed in nitrogen or a mixture of nitrogen and carbon dioxide.”

**3. MILK-CEREAL BASED COMPLEMENTARY FOOD** Milk-cereal based complementary food commonly called as weaning food or supplementary food means foods based on milk, cereal and/or legumes (pulses), soyabean, millets, nuts and edible oil seeds, processed to low moisture content and so fragmented as to permit dilution with water, milk or other suitable medium.

Milk-cereal based complementary food is intended to supplement the diet of infants after the age of six months.

Milk cereal based complementary food are obtained from milk, variety of cereals, pulses, soyabean, millets, nuts and edible oil seeds after processing. It may contain edible vegetable oils, milk solid, various carbohydrates such as sucrose, dextrose, dextrans/ maltodextrin, maltose and lactose, calcium salts; phosphates and citrates and other nutritionally significant minerals and vitamins. It shall contain a minimum of 10 per cent milk protein by weight of the product. It shall also contain minimum 5 per cent milk fat by weight. It shall not contain hydrogenated fats containing trans-fatty acids. It may contain fungal alfa amylase upto a maximum extent of 0.025 percent by weight, fruits and vegetables, egg or egg products. It may also include amino acids such as lysine, methionine, taurine, carnitine etc.

The source of Vitamin Compounds and Mineral Salts may be used from,-

- 1. Calcium (Ca)** - Calcium carbonate, Calcium phosphate tribasic, Calcium sulphate;
- 2. Phosphorous (P)** - Calcium phosphate tribasic;
- 3. Chloride (Cl)** - Sodium chloride;
- 4. Iron (Fe)** - Hydrogen reduced iron, Electrolytic iron;
- 5. Magnesium (Mg)** - Magnesium chloride, Magnesium oxide, Magnesium phosphate dibasic;
- 6. Sodium (Na)** - Sodium chloride;
- 7. Zinc (Zn)** - Zinc sulphate;

## **Vitamins**

1. **Vitamin A** - Retinyl acetate, Retinyl palmitate, Retinyl propionate;
2. **Provitamin A** - Beta-carotene;
3. **Vitamin D** - Vitamin D<sub>2</sub> -Ergocalciferol, Vitamin D<sub>3</sub> - Cholecalciferol, Cholecalciferol-cholesterol;
4. **Vitamin E** - d-alpha-tocopherol, dl-alpha-tocopherol, d-alpha-tocopheryl acetate, dl-alpha-tocopheryl acetate, d-alpha-tocopheryl succinate, dl-alpha-tocopheryl succinate;
5. **Thiamine (Vitamin B<sub>1</sub>)** - Thiamine chloride hydrochloride, Thiamine mononitrate;
6. **Riboflavin (Vitamin B<sub>2</sub>)** -Riboflavin, Riboflavin 5' -phosphate sodium;
7. **Niacin** - Nicotinamide, Nicotinic acid;
8. **Vitamin B<sub>6</sub>** - Pyridoxine hydrochloride;
9. **Biotin (Vitamin H)** - d-biotin;
10. **Folacin** - Folic acid;
11. **Pantothenic acid** - Calcium pantothenate, Panthenol;
12. **Vitamin B<sub>12</sub>** - Cyanocobalamin, Hydroxycobalamin;
13. **Vitamin K** - Phytylmenaquinone;
14. **Vitamin C** - Ascorbic acid, Sodium ascorbate, Calcium ascorbate, Ascorbyl-6-palmitate;
15. **Choline** - Choline bitartrate, Choline chloride;
16. **Inositol**;
17. **Selenium**- Sodium selenite.

It shall be in the form of powder, small granules or flakes, free from lumps and shall be uniform in appearance.

It shall be free from dirt and extraneous matter and free from preservatives and added colour and flavour. It shall be free from any material, which is harmful to human health.

It may contain the following additives, -

<b>Emulsifiers</b>	<b>Maximum level in 100 gm of the product on a dry weight basis</b>
Lecithin	1.5 gms
Mono and Diglycerides	1.5 gms
<b>PH – adjusting agents</b>	
Sodium hydrogen carbonate	
Sodium carbonate	
Sodium Citrate	

Potassium hydrogen Carbonate Potassium Carbonate Potassium Citrate Sodium Hydroxide Calcium Hydroxide Potassium Hydroxide L (+) Lactic Acid Citric Acid	Limited by good manufacturing practice within the limit for sodium
<b>Antioxidants</b>	
Mixed tocopherols concentrate ∞- Tocopherol L-Ascorbyl Palmitate	300 mg /kg fat, singly or in combination 200mg / kg fat

It shall conform to the following requirements, namely:-

1.	Moisture, per cent by weight (not more than)	5.0
2.	Total protein, per cent by weight (not less than)	15.0
3.	Fat, per cent by weight (not less than)	7.5
4.	Total Carbohydrate, per cent by weight (not less than)	55.0
5.	Total ash, per cent by weight (not more than)	5.0
6.	Ash insoluble in dilute Hydrochloric acid, per cent by weight (not more than)	0.1
7.	Crude fibre (on dry basis) per cent by weight (not more than)	1.0
8.	Vitamin A (as retinol) µg per 100 g. (not less than)	350 µg
9.	Added Vitamin D, µg per 100 g. (expressed as Cholecalciferol or Ergocalciferol (not less than)	5 µg
10.	Vitamin C, mg per 100 g. (not less than)	25 mg
11.	Thiamine (as hydrochloride), mg per 100 g. (not less than)	0.5 mg
12.	Riboflavin, mg per 100 g. (not less than)	0.3 mg
13.	Niacin, mg per 100 g. (not less than)	3.0 mg
14.	Folic acid µg per 100 g. (not less than)	20 µg
15.	Iron, mg per 100 g. (not less than)	5.0 mg
16.	Zinc mg per 100 g. (not less than)	2.5 mg
	and not more than	5.0 mg
17.	Bacterial count, per g. (not more than)	10,000
18.	Coliform count absent in	0.1

		gram
19.	Yeast and mould count absent in	0.1 gram
20.	Salmonella and Shigella absent in	25 gram
21.	E. coli absent in	0.1 gram
22.	Staphylococcus aureas absent in	0.1 gram

It shall be packed in hermetically sealed, clean and sound containers or in flexible pack made from film or combination or any of the substrate made of Board paper, polyethylene, polyester metallised film or in such a way to protect from deterioration.

#### **4. PROCESSED CEREAL BASED COMPLEMENTARY FOOD**

commonly called as weaning food or supplementary food means foods based on cereal and/or legumes (pulses), soyabean, millets, nuts and edible oil seeds, processed to low moisture content and so fragmented as to permit dilution with water, milk or other suitable medium.

Processed cereal based complementary food are intended to supplement the diet of infants after the age of six months and up to the age of two years.

Processed cereal based complementary food are obtained from variety of cereals, pulses, soyabean, millets, nuts and edible oil seeds after processing. It shall contain milled cereal and legumes combined not less than 75 percent. Where the product is intended to be mixed with water before consumption, the minimum content of protein shall not be less than 15% on a dry weight basis and the PER shall not be less than 70% of that of casein. The sodium content of the products shall not exceed 100 mg/100 gram of the ready-to-eat product.

Hydrogenated fats containing trans-fatty acids shall not be added to the products. It may also contain following ingredients: - protein concentrates, essential amino acids (only natural L forms of amino acids shall be used), iodized salt; milk and milk products; eggs; edible vegetable oils and fats; fruits and vegetables; various carbohydrates such as sucrose, dextrose, dextrin, maltose dextrin, lactose, honey, corn syrup; malt; potatoes.

The source of Vitamin Compounds and Mineral Salts may be used from,-

1. **Calcium (Ca)** - Calcium carbonate, Calcium phosphate tribasic, Calcium sulphate;
2. **Phosphorous (P)** - Calcium phosphate tribasic, Phosphoric acid;
3. **Chloride (Cl)** - Sodium chloride, Hydrochloric acid;

- 4.Iron (Fe)** - Hydrogen reduced iron, Electrolytic iron;
- 5.Sodium (Na)** - Sodium chloride;
- 6.Zinc (Zn)** - Zinc acetate, Zinc chloride, Zinc oxide, Zinc sulphate;

#### **Vitamins**

- 1.Vitamin A** - Retinyl acetate, Retinyl palmitate, Retinyl propionate;
- 2.Provitamin A** - Beta-carotene;
- 3.Vitamin D** - Vitamin D<sub>2</sub> - Ergocalciferol, Vitamin D<sub>3</sub> - Cholecalciferol, Cholecalciferol-cholesterol;
- 4.Vitamin E** - d-alpha-tocopherol, dl-alpha-tocopherol, d-alpha-tocopheryl acetate, dl-alpha-tocopheryl acetate, d-alpha-tocopheryl succinate, dl-alpha-tocopheryl succinate;
- 5.Thiamine (Vitamin B<sub>1</sub>)** - Thiamine chloride hydrochloride, Thiamine mononitrate;
- 6.Riboflavin (Vitamin B<sub>2</sub>)** - Riboflavin, Riboflavin 5' -phosphate sodium;
- 7.Niacin** - Nicotinamide, Nicotinic acid;
- 8.Vitamin B<sub>6</sub>** - Pyridoxine hydrochloride;
- 9.Biotin (Vitamin H)** - d-biotin;
- 10.Folacin** - Folic acid;
- 11. Pantothenic acid** - Calcium pantothenate, Panthenol;
- 12.Vitamin B<sub>12</sub>** - Cyanocobalamin, Hydroxycobalamin;
- 13.Vitamin K** - Phytylmenaquinone;
- 14.Vitamin C** - Ascorbic acid, Sodium ascorbate, Calcium ascorbate, Ascorbyl-6-palmitate;
- 15.Choline** - Choline bitartrate, Choline chloride;
- 16.Inositol;**
- 17.Selenium-** Sodium selenite.

It shall be in the form of powder, small granules or flakes, free from lumps and shall be uniform in appearance.

All ingredients, including optional ingredients, shall be clean, safe, suitable and of good quality. It shall be free from preservatives, added colour and flavour.

It may contain the following food additives:-



<b>Name of the Food Additives</b>	Maximum Level in a 100 g of Product on a dry weight basis	
<b>Emulsifiers</b>		
Lecithin	1.5 gram	
Mono and Diglycerides	1.5 gram	
<b>pH Adjusting Agents</b>		
Sodium hydrogen carbonate	Limited by good manufacturing practice and within the limits for sodium	
Potassium hydrogen carbonate}	Limited by good manufacturing practice	
Calcium carbonate}		
L(+ ) lactic acid	1.5 gram	
Citric acid	2.5 gram	
<b>Antioxidants</b>		
Mixed tocopherols concentrate}	300 mg/kg fat, singly or in combination	
Alpha-tocopherol}		
L-Ascorbyl palmitate	200 mg/kg fat	
<b>L-Ascorbic acid and its sodium and potassium salts</b>	50 mg, expressed as ascorbic acid and within limits for sodium	
<b>Enzymes</b>		
Malt carbohydrates	Limited by good manufacturing practice	
<b>Leavening Agents</b>		
Ammonium carbonate}	Limited by good manufacturing practice	
Ammonium hydrogen carbonate}		
It shall also conform to the following requirements, namely:-		
S.No	Characteristics	Requirements
1.	Moisture, per cent by weight (not more than)	4.0
2.	Total protein, per cent by weight (not less than)	15.0
3.	Total Carbohydrate, per cent by weight (not less than)	55.0
4.	Total ash, per cent by weight (not more than)	5.0
5.	Ash insoluble in dilute Hydrochloric acid, per cent by weight (not more than) 0.1	0.1
6.	Crude fibre (on dry basis) per cent by weight (not	1.0

	more than)	
7.	Vitamin A (as retinol) µg per 100 g. (not less than)	350 µg
8.	Added Vitamin D, µg per 100 g. (expressed as Cholecalciferol or Ergocalciferol (not less than)	5 µg
9.	Vitamin C, mg per 100 g. (not less than)	25 mg
10.	Thiamine (as hydrochloride), mg per 100 g. (not less than)	0.5 mg
11.	Riboflavin, mg per 100 g. (not less than)	0.3 mg
12.	Niacin, mg per 100 g. (not less than)	3.0 mg
13.	Folic acid µg per 100 g. (not less than)	20.0 µg
14.	Iron, mg per 100 g. (not less than)	5.0 mg
15.	Zinc mg per 100 g. (not less than)	2.5 mg
	and not more than	5.0 mg
16.	Bacterial count, per g. (not more than)	10,000
17.	Coliform count absent in	0.1 gram
18.	Yeast and mould count absent in	0.1 gram
19.	Salmonella and Shigella absent in	25 gram
20.	E. coli absent in	0.1 gram
21.	Staphylococcus aureas absent in	0.1 gram

It shall be packed in hermetically sealed clean and sound containers or in flexible pack made from film or combination of any or the substrate made of board paper, polyethylene, polyester, metalised film or aluminum foil in such a way to protect from deterioration.”

**5. Follow-Up Formula-Complementary Food”** means the product prepared by spray drying of the milk of cow or buffalos or mixture thereof. It may contain vegetable protein. Follow-up formula based on milk shall be prepared from ingredients mentioned below except that a minimum of 3 gram per 100 available Calories (or 0.7 gram per 100 kilojoules) of protein shall be derived from whole or skimmed milk as such, or with minor modification that does not substantially impair the vitamin or mineral content of the milk and which represents a minimum of 90% of the total protein.

Follow-up formula for use as a liquid part of the complementary diet for infants **after the age of six months and up to the age of two years** when prepared in accordance with the instructions for use, 100 ml of the ready-for-consumption product shall provide not less than 60 kcal (or 250 kJ) and not more than 85 kcal (or 355 kJ).

**Follow-up formula shall contain the following nutrients indicated below,**

**(1) Protein** - Not less than 3.0 gram per 100 available calories (or 0.7 gram per 100 available kilojoules).

Not more than 5.5 g per 100 available calories (or 1.3 g per 100 available kilojoules).

(Protein shall be of nutritional quality equivalent to that of casein or a greater quantity of other protein in inverse proportion to its nutritional quality. The quality of the protein shall not be less than 85% of that of casein).

Essential amino acids may be added to follow-up formula to improve its nutritional value. Only L forms of amino acids shall be used.

**(2) Fat** - Not less than 4 g per 100 Calories (0.93 gram per 100 available kilojoules)

Not more than 6 gram per 100 calories (1.4 gram per 100 available kilojoules)

**Linoleic acid (in the form of glyceride)** - Not less than 310 mg  
(in the form per 100 Calories)  
(or 74.09 mg per 100 available  
of glyceride)

The products shall contain nutritionally available carbohydrates suitable for the feeding of the older infant and young child in such quantities as to adjust the product to the energy density in accordance with the requirements given above.

It may also contain other nutrients when required to ensure that the product is suitable to form part of a mixed feeding scheme intended for use after six months of age. When any of these nutrients is added, the food shall contain not less than Recommended Dietary Allowances (RDA) amounts of these nutrients.

The source of Mineral Salts and Vitamin Compounds may be used from, -

- 1. Calcium (Ca)**-Calcium carbonate, Calcium chloride, Calcium citrate, Calcium phosphate monobasic, Calcium phosphate dibasic, Calcium phosphate tribasic;
- 2. Phosphorous (P)**- Calcium phosphate monobasic, Calcium phosphate dibasic, Calcium phosphate tribasic, Magnesium phosphate dibasic, Potassium phosphate dibasic;
- 3. Chloride (Cl)**-Calcium chloride, Choline chloride, Magnesium chloride, Manganese chloride, Sodium chloride, Sodium chloride

iodized;

- 4.Iron (Fe)**- Ferrous citrate Ferrous lactate, Ferrous sulphate, Ferric pyrophosphate;
- 5.Magnesium (Mg)**- Magnesium chloride, Magnesium oxide, Magnesium phosphate dibasic;
- 6.Sodium (Na)**- Sodium bicarbonate, Sodium chloride, Sodium chloride iodized, Sodium citrate, Sodium phosphate monobasic;
- 7.Potassium (K)**- Potassium phosphate dibasic;
- 8.Copper (Cu)**- Cupric citrate, Cupric sulphate;
- 9.Iodine (I)**-Potassium iodide, Sodium iodide;
- 10.Zinc (Zn)**- Zinc sulphate;
- 11. Source of Manganese (Mn)**- Manganese chloride, Manganese sulphate.

## **Vitamins**

- 1.Vitamin A** - Retinyl acetate, Retinyl palmitate, Retinyl propionate;
- 2.Provitamin A** - Beta-carotene;
- 3.Vitamin D** - Vitamin D<sub>2</sub> - Ergocalciferol, Vitamin D<sub>3</sub> - Cholecalciferol, Cholecalciferol-cholesterol;
- 4.VitaminE**-d-alpha-tocopherol, dl-alpha-tocopherol, d-alpha-tocopheryl acetate, dl-alpha-tocopheryl acetate, d-alpha-tocopheryl succinate, dl-alpha-tocopheryl succinate;
- 5.Thiamine (Vitamin B<sub>1</sub>)** - Thiamine chloride hydrochloride, Thiamine mononitrate;
- 6.Riboflavin (Vitamin B<sub>2</sub>)** - Riboflavin, Riboflavin 5' -phosphate sodium;
- 7.Niacin**-Nicotinamide, Nicotinic acid;
- 8.Vitamin B<sub>6</sub>** - Pyridoxine hydrochloride;
- 9.Biotin (Vitamin H)** - d-biotin;
- 10.Folacin** - Folic acid;
- 11. Pantothenic acid** - Calcium pantothenate, Panthenol;
- 12.Vitamin B<sub>12</sub>** - Cyanocobalamin, Hydroxycobalamin;
- 13.Vitamin K** - Phytylmenaquinone;
- 14.Vitamin C** - Ascorbic acid, Sodium ascorbate, Calcium ascorbate, Ascorbyl-6-palmitate;
- 15.Choline** - Choline bitartrate, Choline chloride;
- 16.Inositol**;
- 17.Selenium** - Sodium selenite.

The product shall be free of lumps and shall be uniform in appearance. It shall be free from added starch and added colour and flavour. It shall not have rancid taste and musty odour.

It may contain the following additives, -

<b>pH-Adjusting Agents</b>	<b>Maximum Level in 100 ml of Product Ready-for-Consumption</b>
Sodium hydrogen carbonate} Sodium carbonate} Sodium citrate} Potassium hydrogen carbonate} Potassium carbonate} Potassium citrate} Sodium hydroxide} Calcium hydroxide} Potassium hydroxide} L(+ ) Lactic acid} Citric acid}	Limited by good Manufacturing Practice within the limit for sodium
<b>Antioxidants</b>	
Mixed tocopherols concentrate} ∞ - Tocopherol}	3 mg singly or in combination
L-Ascorbyl palmitate}	5 mg singly or in combination.

It shall also conform to the following requirements,-

<b>S. No.</b>	<b>Characteristics</b>	<b>Requirements</b>
1.	Moisture, per cent by weight (not more than)	4.5
2.	Total milk protein, per cent by weight (not less than) and	13.5
	(not more than)	24.75
3.	Total fat, per cent by weight (not less than) and	18.0
	(not more than)	27.0
	Linoleate per 100 gm (not less than)	1.398
4.	Total ash, per cent by weight (not more than)	8.5

5.	Ash insoluble in dilute Hydrochloric acid, per cent by weight	
	(not more than)	0.1
6.	Solubility:	
	Solubility Index maximum	2.0 ml.
	Solubility per cent by weight (not less than)	98.5
7.	Vitamin A (as retinol) µg per 100 g. (not less than)	350 µg
8.	Added Vitamin D (expressed as Cholecalciferol or Ergocalciferol)	
	µg per 100 g. (not less than)	4.5 µg
9.	Vitamin C, mg per 100 g. (not less than)	36 mg
10.	Thiamin, mcg per 100 g. (not less than)	180 µg
11.	Riboflavin, µg per 100 g. (not less than)	270 µg
12.	Niacin, µg per 100 g. (not less than)	1125µg
13.	Pyridoxine µg per 100 g. (not less than)	202.50 µg
14.	Folic acid, µg per 100 g. (not less than)	20.0 µg
15.	Pantothenic acid, mg per 100 g. (not less than)	1.35 mg
16.	Vitamin B12, µg per 100 g. (not less than)	0.675µg
17.	Choline, mg per 100 g. (not less than)	32 mg
18.	Vitamin K µg per 100 g. (not less than)	18µg
19.	Biotin, µg per 100 g. (not less than)	6.75µg
20.	Vitamin E (as a- tocopherol compounds) I.U. per 100g (not less than)	3.15 IU
21.	Sodium, mg per 100 g. (not less than)	90 mg
22.	Potassium, mg per 100 g. (not less than)	360 mg
23.	Chloride, mg per 100 g. (not less than)	247.50 mg
24.	Calcium, mg per 100 g. (not less than)	405 mg
25.	Phosphorous, mg per 100 g. (not less than)	270 mg
26.	Magnesium, mg per 100 g. (not less than)	27 mg
27.	Iron, mg per 100 g. (not less than)	5 mg
28.	Iodine, µg per 100 g. (not less than)	22.50µg
29.	Copper, µg per 100 g. (not less than)	280µg
30.	Zinc, mg per 100 g. (not less than) and	2.5 mg
	(not more than)	5.0 mg
31.	Manganese, µg per 100 g. (not less than)	20µg
32.	Selenium, µg per 100 g. (not less than)	14µg
33.	Bacterial count, per g. (not more than)	10,000
34.	Coliform count absent in	0.1gram
35.	Yeast and mould count absent in	0.1gram
36.	Salmonella and Shigella absent in	25 gram

37.	E. coli absent in	0.1gram
38.	Staphylococcus aureas absent in	0.1gram

It shall be packed in hermetically sealed, clean and sound containers or in flexible pack made from film or combination or any of the substrate made of Board paper, polyethylene, polyester metallised film or in such a way to protect from deterioration. It shall be packed in nitrogen or a mixture of nitrogen and carbon dioxide.

### **Regulation 5.1.10: BUTTER, GHEE & MILK FATS**

**1 Butter** means the fatty product derived exclusively from milk of Cow and/or Buffalo or its products principally in the form of an emulsion of the type water-in-oil. The product may be with or without added common salt and starter cultures of harmless lactic acid and / or flavour producing bacteria. Table butter shall be obtained from pasteurised milk and/ or other milk products which have undergone adequate heat treatment to ensure microbial safety. It shall be free from animal, body fat, vegetable oil and fat, mineral oil and added flavour. It shall have pleasant taste and flavour free from off flavour and rancidity. It may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**.

Provided that where butter is sold or offered for sale without any indication as to whether it is table or desi butter, the standards of table butter shall apply.

It shall conform to the following requirements:

<b>Product</b>	<b>Moisture</b>	<b>Milk Fat</b>	<b>Milk solids not Fat</b>	<b>Common salt</b>
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>
Table Butter	Not more than 16.0 percent m/m	Not less than 80.0 percent m/m	Not more than 1.5 percent m/m	Not more than 3.0 percent m/m
Desi Cooking Butter	–	Not less than 76.0 percent m/m	–	–

**2. GHEE means** the pure clarified fat derived solely from milk or curd

or from desi (cooking) butter or from cream to which no colouring matter or preservative has been added. The standards of quality of ghee produced in a State or Union Territory specified in column 2 of the Table below shall be as specified against the said State or Union Territory in the corresponding Columns 3,4,5 and 6 of the said Table.

**TABLE**

Sl. No.	Name of the State/ Union Territory	Butyro refracto- meter reading at 40°C	Minimum Reichert value	Percentage of <i>FFA</i> <i>Mois- ture</i> <i>as oleic acid</i> <i>(Max.)</i>	
(1)	(2)	(3)	(4)	(5)	(6)
1.	Andhra Pradesh	40.0 to 43.0	24	3.0	0.5
2.	Andaman and Nicobar Islands	41.0 to 44.0	24	3.0	0.5
3.	Arunachal Pradesh	40.0 to 43.0	26	3.0	0.5



(1)	(2)	(3)	(4)	(5)	(6)
4.	Assam	40.0 to 43.0	26	3.0	0.5
5.	Bihar	40.0 to 43.0	28	3.0	0.5
6.	Chandigarh	40.0 to 43.0	28	3.0	0.5
6A.	Chhatisgarh	40.0 to 44.0	26	3.0	0.5
7.	Dadra and Nagar Haveli	40.0 to 43.0	24	3.0	0.5
8.	Delhi	40.0 to 43.0	28	3.0	0.5
9.	(a) Goa	40.0 to 43.0	26	3.0	0.5
	(b) Daman & Diu	40.0 to 43.5	24	3.0	0.5
10.	Gujarat :				
	(a) Areas other than cotton tract areas	40.0 to 43.5	24	3.0	0.5
	(b) Cotton tract areas	41.5 to 45.0	21	3.0	0.5
11.	Haryana :				
	(a) Areas other than cotton tract areas	40.0 to 43.0	28	3.0	0.5
	(b) Cotton tract areas	40.0 to 43.0	26	3.0	0.5
12.	Himachal Pradesh	40.0 to 43.0	26	3.0	0.5
13.	Jammu and Kashmir	40.0 to 43.0	26	3.0	0.5
13A.	Jharkhand	40.0 to 43.0	28	3.0	0.5
14.	Karnataka :				
	(a) Areas other than Belgaum District	40.0 to 43.0	24	3.0	0.5
	(b) Belgaum District	40.0 to 44.0	26	3.0	0.5
15.	Kerala	40.0 to 43.0	26	3.0	0.5
16.	Lakshadweep	40.0 to 43.0	26	3.0	0.5
17.	Madhya Pradesh :				
	(a) Areas other than cotton tract areas	40.0 to 44.0	26	3.0	0.5
	(b) Cotton tract areas	41.5 to 45.0	21	3.0	0.5
18.	Maharashtra :				
	(a) Areas other than cotton tract areas	40.0 to 43.0	26	3.0	0.5
	(b) Cotton tract areas	41.5 to 45.0	21	3.0	0.5

(1)	(2)	(3)	(4)	(5)	(6)
19.	Manipur	40.0 to 43.0	26	3.0	0.5
20.	Meghalaya	40.0 to 43.0	26	3.0	0.5
21.	Mizoram	40.0 to 43.0	26	3.0	0.5
22.	Nagaland	40.0 to 43.0	26	3.0	0.5
23.	Orissa	40.0 to 43.0	26	3.0	0.5
24.	Pondicherry	40.0 to 44.0	26	3.0	0.5
25.	Punjab	40.0 to 43.0	28	3.0	0.5
26.	Rajasthan :				
	(a) Areas other than Jodhpur Dn.	40.0 to 43.0	26	3.0	0.5
	(b) Jodhpur Dn.	41.5 to 45.0	21	3.0	0.5
27.	Tamil Nadu	41.0 to 44.0	24	3.0	0.5
28.	Tripura	40.0 to 43.0	26	3.0	0.5
29.	Uttar Pradesh	40.0 to 43.0	26	3.0	0.5
	29A.Uttarakhand	40.0 to 43.0	26	3.0	0.5]
30.	West Bengal :				
	(a) Areas other than Bishnupur Sub- Division	40.0 to 43.0	28	3.0	0.5
	(b) Bishnupur Sub-Division	41.5 to 45.0	21	3.0	0.5
31.	Sikkim	40.0 to 43.0	28	3.0	0.5

(Baudouin test shall be negative.)

**Explanation.**—By cotton tract is meant the areas in the States where cotton seed is extensively fed to the cattle and so notified by the State Government concerned.

**3. Milkfat / Butter oil and Anhydrous Milk fat / Anhydrous Butter oil** means the fatty products derived exclusively from milk and/ or products obtained from milk by means of process which result in almost total removal of water and milk solids not fat. It shall have pleasant taste and flavour free from off odour and rancidity. It shall be free from vegetable oil/ fat, animal body fat, mineral oil, added flavour and any other substance foreign to milk. It may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:—

Requirements	Milk Fat/ Butter Oil	Anhydrous milk fat Anhydrous Butter Oil
(1)	(2)	(3)
(i) B.R. reading at 40°C	40-44	40-44
(ii) Moisture m/m	Not more than 0.4 percent	Not more than 0.1 percent
(iii) Milk Fat m/m	Not less than 99.6 percent	Not less than 99.8 percent
(iv) Reichert Value	Not less than 24	Not less than 24
(v) F.F.A. as Oleic acid	Not more than 0.4 percent	Not more than 0.3 percent
(vi) Peroxide Value (milli eqvt of Oxygen / Kg fat)	Not more than 0.6 percent	Not more than 0.3 percent
(vii) Boudouins Test	Negative	Negative

### Regulation 5.1.11: CHAKKA & SHRIKHAND

**1. CHAKKA**—means a white to pale yellow semi-solid product of good texture and uniform consistency obtained by draining off the whey from the Yoghurt obtained by the lactic fermentation of cow's milk, buffalo's milk, skimmed milk and recombined or standardised milk which has been subjected to minimum heat treatment equivalent to that of pasteurisation. It shall have pleasant Yoghurt/Dahi like flavour. It shall not contain any ingredient foreign to milk. It shall be free from mouldness and free from signs of fat or water seepage or both. It shall be smooth and it shall not appear dry. It shall not contain extraneous colour and flavours. It shall conform to the following requirements, namely :-

	Chakka	Skimmed milk Chakka
(i) Total solids, per cent by weight	Min. 30	Min. 20
(ii) Milk fat (on dry basis) per cent by weight	Min. 33	Max.5
(iii) Milk protein (on dry basis) per cent by weight	Min. 30	Min. 60
(iv) Titrable acidity (As lactic acid)per cent by weight	Max. 2.5	Max. 2.5
(v) Total ash (on dry basis) per cent by weight	Max. 3.5	Max. 5.0

Chakka when sold without any indication shall conform to the standards of Chakka.

**2. SHRIKHAND**-means the product obtained from chakka or

Skimmed Milk Chakka to which milk fat is added. It may contain fruits, nuts, sugar, cardamom, saffron and other species. It shall not contain any added colouring and artificial flavouring substances. It shall conform to the following specifications, namely:-

(i)	Total solids, per cent by weight	Not less than 58
(ii)	Milk fat (on dry basis) per cent by weight	Not less than 8.5
(iii)	Milk protein (on dry basis) per cent by weight	Not less than 9
(iv)	Titration acidity (on dry basis) per cent by weight	Not more than 1.4
(v)	Sugar (Sucrose) (on dry basis) per cent by weight	Not less than 8.5
(vi)	Total ash (on dry basis) per cent by weight	Not more than 0.9

In case of Fruits Shrikhand it shall contain Milk fat (on dry basis) per cent by weight... Not less than 7.0 and Milk Protein (on dry basis) per cent by weight... Not less than 9.0.

### **Regulation 5.1.12: FERMENTED MILK PRODUCTS**

**1. Yoghurt<sup>1</sup>** means a coagulated product obtained from toned milk, pasteurized or boiled milk by lactic acid fermentation through lactobacillus bulgaricus delbruckii var-bulgaricus and Streptococcus thermophilus. It may also contain cultures of Bifidobacterium bifidus and Lactobacillus acidophilus and if added, the declaration to this effect shall be made on the label. The product shall have smooth surface and custard like consistency with no whey separation. It may also contain –

- (i) Milk powder, skimmed milk powder, whey powder, whey proteins, water soluble milk proteins, caseinates, manufactured from pasteurized products and lactose enzyme preparation;
- (ii) Sugar, corn-syrup or glucose syrup in case of sweetened, flavoured and fruit yoghurt only;
- (iii) Fruits, fruit pulp, jam, fruit syrup, fruit juice etc. in flavoured and fruit yoghurt only;
- (iv) Permitted colours and flavours in flavoured and fruit yoghurt only.

It may contain permitted stabilizers upto a maximum limit of 0.5 percent by weight. It shall also meet the following requirements, namely:-

	Yoghurt	Yoghurt	Yoghurt	Fruit
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<sup>1</sup> The below mentioned standards for Yoghurt (Regulation 5.1.12) are in force, the revised standards for these are pending final approval and are currently deferred till 6th September, 2010.

	Plain	skimmed	Sweetened and/or flavoured	yoghurt
(i) Total milk solids percent by weight not less than	13.5	11.0	13.5	10.0
(ii) Milk fat, percent by weight, not less than	3.0	0.5	3.0	1.5
(iii) Sugar, percent by weight, not less than	-	-	6.0	6.0
(iv) Protein, percent by weight, not less than	3.2	3.2	3.2	2.6

Titration acidity of the product shall be from 0.8 to 1.2 percent by weight (as lactic acid). The specified lactic acid bacterial count per gram of the product shall not be less than 10,00,000 and Escherichia. Coli shall be absent in the product.

The type of yoghurt shall be clearly indicated on the label otherwise standard of Plain yoghurt shall apply.

Note – The yoghurt subjected to heat treatment after fermentation at temperature not less than 65°C shall be labeled as “Thermised or Heat Treated Yoghurt” and shall conform to the above parameters except the minimum requirement of specific lactic acid bacterial count per gm.

**Yoghurt<sup>2</sup>** means a coagulated product obtained from pasteurised or boiled milk or concentrated milk, pasteurised skimmed milk and /or pasteurised cream or a mixture of two or more of these products by lactic acid fermentation through the action of Lactobacillus bulgaricus and Streptococcus thermophilus. It may also contain cultures of Bifidobacterium bifidus and Lactobacillus acidophilus and if added a declaration to this effect shall be made on the label. The microorganisms in the final product must be viable and abundant. It may contain milk powder, skimmed milk powder, unfermented buttermilk, concentrated whey, whey powder, whey protein, whey protein concentrate, water soluble milk proteins, edible casein, and caseinates manufactured from pasteurised products. It may also contain sugar, corn syrup or glucose syrup in sweetened yoghurt or fruits in fruits yoghurt. It shall have smooth surface and thick consistency without separation of whey. It shall be free from vegetable oil/ fat, animal body fat, mineral oil and any other substance foreign to milk. The product may contain food additives permitted in **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following

<sup>2</sup> The deferred standards for Yoghurt are here as under

requirements:—

<b>Product</b>	<b>Milk Fat</b>	<b>Milk solids not fat</b>	<b>Milk protein</b>	<b>Sugar</b>
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>
(i) Yoghurt	Not less than 3.0 percent m/m	Not less than 8.5 percent m/m	Not less than 3.2 percent m/m	—
(ii) Partly skimmed Yoghurt	Not less than 0.5 percent m/m & Not more than 3.0 percent m/m	Not less than 8.5 percent m/m	Not less than 3.2 percent m/m	—
(iii) Skimmed Yoghurt	Not more than 0.5 percent m/m	Not less than 8.5 percent m/m	Not less than 3.2 percent m/m	—
(iv) Sweetened Flavoured Yoghurt	Not less than 3.0 percent m/m	Not less than 8.5 percent m/m	Not less than 3.2 percent m/m	Not less than 6.0 percent m/m
(v) Fruit Yoghurt	Not less than 1.5 percent m/m	Not less than 8.5 percent m/m	Not less than 2.6 percent m/m	Not less than 6.0 percent m/m

Provided that Titrable acidity as lactic acid shall not be less than 0.85 percent and not more than 1.2 percent. The specific lactic acid producing bacterial count per gram shall not be less than 10,00,000. Provided further that the type of Yoghurt shall be clearly indicated on the label otherwise standards of plain Yoghurt shall apply. The Yoghurt subjected to heat treatment after fermentation at temperature not less than 65 degree C shall be labelled as Thermised or Heat Treated Yoghurt and shall conform to the above parameters except the minimum requirement of specific lactic acid producing count per gram.

### Regulation 5.1.13: WHEY PRODUCTS

**1. Whey Powder** means the product obtained by spray or roller drying sweet whey or acid whey from which major portion of milk fat has been removed. Sweet Whey means the fluid separated from the curd after the coagulation of milk, cream, skimmed milk or buttermilk in the manufacture of cheese, casein or similar products, principally with non-animal rennet type enzymes.

Acid Whey is obtained after coagulation of milk, cream, skimmed milk or buttermilk, principally with acids of the types used for manufacture of edible acid casein, chhana, paneer, or fresh cheese. It shall be of uniform colour with pleasant taste and flavour free from off flavour and rancidity. It may contain food additives permitted in **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:—

<b>Requirement (1)</b>	<b>Whey Powder (2)</b>	<b>Acid Whey Powder (3)</b>
(i) Moisture	Not more than 5.0 percent	Not more than 4.5 percent
(ii) Milk Fat	Not more than 2.0 percent m/m	Not more than 2.0 percent m/m
(iii) Milk Protein (N x 6.38)	Not less than 10.0 percent m/m	Not less than 7.0 percent m/m
(iv) Total Ash	Not more than 9.5 percent m/m	Not more than 15.0 percent m/m
(v) pH (in 10.0% solution)	Not less than 5.1	Not more than 5.1
(vi) Lactose content expressed as anhydrous Lactose	Not less than 61.0 percent m/m	Not less than 61.0 percent m/m

- Note:** (i) Although the powders may contain both anhydrous lactose and lactose monohydrates, the lactose content is expressed as anhydrous lactose.  
(ii) 100 parts of lactose monohydrate contain 95 parts of anhydrous lactose.

## Regulation 5.1.14: CASEIN PRODUCTS

1. **Edible Casein Products** mean the products obtained by separating, washing and drying the coagulum of skimmed milk.
2. **Edible acid casein** means the product obtained by separating, washing and drying the acid precipitated coagulum of skimmed milk.
3. **Edible non-animal rennet casein** means the product obtained after washing and drying the coagulum remaining after separating the whey from the skimmed milk which has been coagulated by non-animal rennet or by other coagulating enzymes
4. **Edible caseinate** means the dry product obtained by reaction of edible casein or fresh casein curd with food grade neutralising agents and which have been subjected to an appropriate heat treatment. It shall be qualified by the name of the cation and the drying process used (Spray or Roller dried).

The products shall be white to pale cream or have greenish tinge; free from lumps and any unpleasant foreign flavour, it may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirements:—

<b>Requirements</b>	<b>Non-animal rennet Casein</b>	<b>Acid Casein</b>	<b>Caseinate</b>
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>
(i) Moisture	Not more than 12.0 percent m/m	Not more than 12.0 percent m/m	Not more than 8.0 percent m/m
(ii) Milk Fat	Not more than 2.0 percent m/m	Not more than 2.0 percent m/m	Not more than 2.0 percent m/m
(iii) Milk Protein (Nx6.38) on dry weight basis	Not less than 84.0 percent m/m	Not less than 90.0 percent m/m	Not less than 88.0 percent m/m
(iv) Casein in Protein	Not less than 95.0 percent m/m	Not less than 95.0 percent m/m	Not less than 95.0 percent m/m



(v) Ash including P <sub>2</sub> O <sub>5</sub>	Not less than 7.5 percent m/m	Not more than 2.5 percent m/m	-
(vi) Lactose	Not less than 1.0 percent m/m	Not more than 1.0 percent m/m	Not more than 1.0 percent m/m
(vii) Free Acid ml 0.1N NaOH / gm	-	Not more than 0.27 percent	-
(viii) pH Value in 10%	-	-	Not more than 8.0

## **PART 5.2: FATS, OILS AND FAT EMULSIONS**

### **Regulation 5.2.1 Definition**

- (1) **“De-oiled meal”** means the residual material left over when oil is extracted by a solvent from any oil-bearing material;
- (2) **“Hydrogenation”** means the process of addition of hydrogen to an edible vegetable oil using a catalyst to produce a fat with semi-solid consistency;
- (3) **“Margarine”** means an emulsion of edible oils and fats with water;
- (4) **“Refined vegetable oil”** means any vegetable oil which is obtained by expression or solvent extraction of vegetable oil bearing materials, deacidified with alkali and/or by physical refining and/or by miscella refining using permitted food grade solvents followed by bleaching with absorbent earth and/or activated carbon and deodorized with steam without using any other chemical agents

- (5) **"Refining"** means a process by which an expressed vegetable oil or a solvent-extracted oil is deacidified-
- (i) With alkali, or
  - (ii) by physical refining, or both, or
  - (iii) By miscella refining using permitted food grade solvent, followed by bleaching with absorbent earth and/or activated carbon or both of them and deodorized with steam without using any other chemical agent;
  - (iv) refining includes the process of degumming using phosphoric acid
- (6) **"Solvent-extracted oil"** means any vegetable oil obtained from oil-bearing material by the process of extraction by a solvent;
- (7) **"Solvent-extracted edible flour"** means the ground material obtained from specially prepared deoiled meal, that is, the residual material left over when oil is extracted by a solvent from oil cake immediately following the single-pressing of good quality edible oilseeds;
- (8) **"Vegetable oils"** means oils produced from oilcakes or oilseeds or oil-bearing materials of plant origin and containing glycerides;
- (9) **"Vegetable oil product"** means any product obtained for edible purposes by subjecting one or more edible oils to any or a combination of any of the processes or operations, namely, refining, blending, hydrogenation or interesterification and winterization (process by which edible fats and oils are

fractionated through cooling), and includes any other process which may be notified by the Central Government in the official Gazette;

### **Regulation 5.2.2 OILS:**

**1. COCONUT OIL (*Naryal Ka tel*)** means the oil expressed from copra obtained from the kernel of *Cocos mucifera* nuts. It shall be clear and free from rancidity, suspended or other foreign matter, separated water, added colouring or flavouring substances, or mineral oil. It shall conform to the following standards:-

Butyro refractometer reading at 40°C	34.0 to 35.5
OR	
Refractive Index at 40°C	1.4481-1.4491;
Saponification value	Not less than 250.
Iodine value	7.5 to 10.0
Polenske value	Not less than 13.0
Acid value	Not more than 6.0 per cent
Unsaponifiable matter	Not more than 1.0 per cent

Test for argemone oil shall be negative.

However, it may contain food additives permitted in these regulations including **Appendix A**

Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2**. The oil so refined shall not contain Hexane more than 5.00 ppm.

**2. COTTON SEED OIL (*Binola Ka Tel*)** means the oil extracted from clean, sound delinted and decorticated cotton seeds (genus *Gossypium*). It shall be refined. It shall be clear, free from rancidity, suspended or other foreign matter, separated water, added colouring or flavouring substances or mineral oil. It shall conform to the following standards:-

Butyro-refractometer reading at 40°C.	55.6 to 60.2
	OR
Refractive Index at 40°C	1.4630-1.4660
Saponification value	190 to 198
Iodine value	98 to 112.
Unsaponifiable matter	Not more than 1.5 per cent.
Acid value	Not more than 0.50 per cent.

There shall be no turbidity after keeping the filtered sample at 30°C for 24 hours

Bellier Test (Turbidity... 19.0 °C -21.0 °C temperature-Acetic acid method)

Test for Argemone oil shall be negative

However, it may contain food additives permitted in these regulations and **Appendix A**

Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2.** The oil so refined shall not contain Hexane more than 5.00 ppm.

**3. GROUNDNUT OIL (*moongh-phali-ka tel*)** means the oil expressed from clean and sound groundnuts (*Arachis hypogoes*). It shall be clear, free from rancidity, suspended or other foreign matter, separated water added colouring or flavouring substances or mineral oil. It shall conform to the following standards:-

Butyro-refractometer reading at 40 °C	54.0 to 57.1
	Or
Refractive Index at 40°C	1.4620-1.4640
Saponification value	188 to 196
Iodine value	85 to 99.
Unsaponifiable matter	Not more than 1.0 per cent.
Acid value	Not more than 6.0 percent
Bellier test Turbidity temperature Acetic acid	39°C to 41°C

method	
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Test for argemone oil shall be negative.

However, it may contain food additives permitted in these regulations and **Appendix A**

Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2.** The oil so refined shall not contain Hexane more than 5.00 ppm.

**4. LINSEED OIL (*Tisi ka tel*)** means the oil obtained by process of expressing clean and sound linseed (*Linum usitatissimum*). It shall be clear, free from rancidity, suspended or other foreign matter, separated water, added colouring or flavouring substance, or mineral oil. It shall conform to the following standards:-

Butyro-refractometer reading at 40 °C	69.5-74.3
Refractive Index at 40°C	Or 1.4720-1.4750
Saponification value	188 to 195
Iodine value	Not less than 170
Unsaponifiable matter	Not more than 1.5 per cent.
Acid value	Not more than 4.0 percent

Test for argemone oil shall be negative.

However, it may contain food additives permitted in these regulations including **Appendix A**

Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2.** The oil so refined shall not contain Hexane more than 5.00 ppm.

**5. MAHUA OIL** means the oil expressed from clean and sound seeds or nuts of *Madhuca (Bassi latifolia or B. longifolia or a mixture of both)*. It shall be clear and shall be free from rancidity, suspended or other foreign

matter, separated water, added colouring or flavouring substances, or mineral oil. It shall be refined and shall conform to the following standards:-

Butyro-refractometer reading at 40 °C	49.5 to 52.7
Refractive Index at 40°C	Or 1.4590 - 1.4611
Saponification value	187 to 196
Iodine value	58 to 70
Unsaponifiable matter	Not more than 2.0 per cent
Acid value	Not more than 0.50 per cent

Test for argemone oil shall be negative

However, it may contain food additives permitted in these regulations and **Appendix A**

Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2**. The oil so refined shall not contain Hexane more than 5.00 ppm.

## **6 RAPE-SEED OIL (Torja Oil) MUSTARD OIL (Sarson ka tel)**

means the oil expressed from clean and sound mustard seeds, belonging to the compestris, juncea or napus varieties of Brassica. It shall be clear free from rancidity, suspended or foreign matter, separated water, added colouring or flavouring substances or mineral oil. It shall conform to the following standards:-

Butyro-refractometer reading at 40 °C	48.0 to 60.5
Saponification value	168 to 177
Iodine value	96-112: polybromide test shall be neagative
Unsaponifiable matter	Not more than 1.2 per cent by weight
Acid value	Not more than 6.0 percent

Bellier test (Turbidity Method)	23.0 °C to 27.5 °C Temperature Acetic acid
Test for Argemone oil	Negative
Test for Hydrocyanic Acid	Negative

Test for argemone oil shall be negative

However, it may contain food additives permitted in these regulations including **Appendix A**

Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2.** The oil so refined shall not contain Hexane more than 5.00 ppm.

**7. Olive oil** means the oil expressed from the fruit of the olive tree (*Olea europaea sativa Hoffm. et Link*). It shall be of three types:-

**(i) Virgin olive oil** means the oil obtained from the fruit of the olive tree by mechanical or other physical means under conditions, particularly thermal, which do not lead to alteration of the oil. Virgin olive oil is oil which is suitable for consumption in the natural state without refining. It shall be clear, yellow to green in colour, with specific odour and taste, free from odours or tastes indicating alteration or pollution of oil. It shall be free from rancidity, suspended or other foreign matter, separated water, added colouring or flavouring substances or mineral oil.

**(ii) Refined olive oil** means the oil obtained from virgin olive, the acid content and or organoleptic characteristics of which render it unsuitable for consumption in the natural state, by means of refining methods which do not lead to alterations in the initial glyceridic structure. It shall be clear, limpid without sediment, yellow in colour, without specific odour or taste and free from odours or taste indicating alteration or pollution of oil. It shall be free from rancidity, suspended or other foreign matter, separated water, added colouring or flavouring substances or mineral oil.

Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2.** The oil so refined shall not contain Hexane more than 5.00 ppm.

**iii. Refined olive-pomace oil means** the oil obtained from "olive

pomace" by extraction by means of solvents and made edible by means of refining methods which do not lead to alteration in the initial glyceridic structure. It shall be clear, limpid, without sediment, yellow to yellow-brown in colour, without specific odour or taste and free from odours or tastes indicating alteration or pollution of the oil. It shall be free from rancidity, suspended or other foreign matter, separated water, added colouring or flavouring substances or mineral oil.

However, it may contain food additives permitted in these regulations including **Appendix A**.

Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2**. The oil so refined shall not contain Hexane more than 5.00 ppm  
It shall conform to the following standards:-

<b>Parameters</b>	<b>Virgin olive oil</b>	<b>Refined olive oil</b>	<b>Refined olive-Pomace oil</b>
B.R. Reading at 40°C Or Refractive Index at 40°C	51.0-55.6	51.0-55.6	51.6-55.9
	1.4600-1.4630	1.4600-1.4630	1.4604-1.4632
Saponification value (mg KOH/g oil)	184-196	184-196	182-193
Iodine value (wijs)	75-94	75-94	75-92
Unsaponifiable matter (using light petroleum)	Not more than 15g/kg	Not more than 15g/kg	Not more than 30g/kg
Acid Value	Not more than 6.0	Not more than 5.0	Not more than 0.5
Bellier test	Not more than 17	Not more than 17	Not applicable
Semi-Siccative oil test	Negative	Negative	Negative
Olive pomace oil test	Negative	Negative	Negative



Cotton seed oil test	Negative	Negative	Negative
Teaseed oil test	Negative	Negative	Negative
Sesame seed oil test	Negative	Negative	Negative
Test for Argemone oil	Negative	Negative	Negative

**8. POPPY SEED OIL** means the oil expressed from poppy seeds (*Papaver somniferum*). It shall be clear, free from rancidity, suspended or other foreign matter separated water, added colouring or flavouring substances or mineral oil. It shall conform to the following standards:-

Butyro-refractometer reading at 40 °C	60.0 to 64.0
Refractive Index at 40°C	Or 1.4659 - 1.4685
Saponification value	186 to 194
Iodine value	133 to 143
Unsaponifiable matter	Not more than 1.0 per cent
Acid value	Not more than 6.0

Test for argemone oil shall be negative.

However, it may contain food additives permitted in these regulations and **Appendix A**

Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2**. The oil so refined shall not contain Hexane more than 5.00 ppm.

**9. SAFFLOWER SEED OIL (*barry Ka tel*)** means the oil expressed from the seeds of *Carthamus tinctorius*. It shall be clear, free from rancidity, suspended or other foreign matter, separated water, added colouring or flavouring substances, or mineral oil. It shall conform to the following standards:-

Butyro-refractometer reading at 40 °C	62.4 to 64.7
Refractive Index at 40°C	Or 1.4674-1.4689
Saponification value	186-196
Iodine value	135-148
Unsaponifiable matter	Not more than 1.0 per cent
Acid value	Not more than 6.0 percent
Bellier test Turbidity temperature Acetic acid method	Not more than 16 °C

Test for argemone oil shall be negative.

However, it may contain food additives permitted in these regulations and **Appendix A**

Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2.** The oil so refined shall not contain Hexane more than 5.00 ppm.

**9.1 Safflowerseed oil and Safflowerseed oil (High Oleic Acid)** means the oil expressed from the seeds of *Carthamus tinctorious L.* It shall be clear, free from rancidity, suspended or foreign matter, separated water, added colouring or flavouring substances, or mineral oil. It shall contain not less than 70% oleic acid as percent of total fatty acid. It shall conform to the following standards:-

Parameters	High Oleic Acid Safflowerseed Oil	Safflowerseed Oil
B.R. Reading at 40°C	51.0-57.1	61.7-66.4
Or Refractive Index at 40°C	1.460-1.464	1.467-1.470
Iodine value (wijs method)	80-100	136-148
Saponification value	186-194	186-198

Unsaponifiable matter	Not more than 10g/kg	Not more than 15g/kg
Acid Value	Not more than 4.0 mg/KOH/g oil	Not more than 4.0 mg/KOH/g oil
Bellier test Turbidity temperature Acetic acid method	Not more than 16 °C	Not more than 16 °C
Test for Argemone oil	Negative	Negative

Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2**. The oil so refined shall not contain Hexane more than 5.00 ppm.

**10. TARAMIRA OIL** means the oil expressed from clean and sound seeds of Taramira (*Eruca sativa*). It shall be clear, free from rancidity, suspended or other foreign matter, separated water, added colouring or flavouring substances, or mineral oil. It shall conform to the following standards:-

Butyro-refractometer reading at 40 °C	58.0 to 60.0
Refractive Index at 40°C	Or 1.4646-1.4659
Saponification value	174 to 177
Iodine value	99 to 105
Unsaponifiable matter	Not more than 1.0 per cent
Acid value	Not more than 6.0 percent

Test for argemone oil shall be negative.

However, it may contain food additives permitted in these regulations and **Appendix A**

Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2**. The oil so refined shall not contain Hexane more than 5.00 ppm.

**11. TIL OIL (*Gingelly or sesame oil*)** means the oil expressed from clean and sound seeds of Til (*Sesamum indicum*), black, brown, white, or mixed. It shall be clear, free from rancidity, suspended or other foreign matter, separated water, added colouring or flavouring substances, or mineral oil. It shall conform to the following standards:-

Butyro-refractometer reading at 40 °C	58.0 to 61.0 Or
Refractive Index at 40°C	1.4646-1.4665
Saponification value	188-193
Iodine value	103-120
Unsaponifiable matter	Not more than 1.5 per cent
Acid value	Not more than 6.0 percent
Bellier test Turbidity temperature Acetic acid method	Not more than 22 °C

Provided that the oil obtained from white sesame seeds grown in Tripura, Assam and West Bengal shall conform to the following standards:-

Butyro-refractometer reading at 40 °C	60.5 to 65.4 Or
Refractive Index at 40°C	1.4662-1.4694
Saponification value	185 to 190
Iodine value	115 to 120
Acid value	Not more than 6.0 percent
Unsaponifiable matter	Not more than 2.5 per cent
Bellier test Turbidity temperature Acetic acid method	Not more than 22 °C

Test for argemone oil shall be negative.

However, it may contain food additives permitted in these regulations and **Appendix A**

Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2.**

The oil so refined shall not contain Hexane more than 5.00 ppm.

**12 NIGER SEED OIL (Sargiya ka tel)** means the edible oil obtained by process of expressing clean and sound seeds of *Guizotia abyssinica*. It shall be clear and free from rancidity, suspended or other foreign matter, separated water, added colouring or flavouring substances, mineral or other oil. It shall conform to the following standards:-

Butyro-refractometer reading at 40 °C	61.0-65.0 Or
Refractive Index at 40°C	1.4665-1.4691
Saponification value	188-193
Iodine value	110 to 135
Unsaponifiable matter	Not more than 1.0 per cent
Acid value	Not more than 6.0 percent
Bellier test Turbidity temperature Acetic acid method	25 °C – 29 °C

Test for argemone oil shall be negative.

However, it may contain food additives permitted in these regulations and **Appendix A**

Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2**. The oil so refined shall not contain Hexane more than 5.00 ppm.

**13 - SOYABEAN OIL** means the oil expressed from clean and sound soyabeans (*Soja max*) from which the major portion of the gums naturally present have been removed by hydration and mechanical or physical separation. It shall be clear, free from rancidity, suspended or other foreign matter, separated water added colouring or flavouring substances or mineral oil. It shall conform to the following standards:-

Butyro-refractometer reading at 40 °C	58.5 to 68.0 Or
Refractive Index at 40°C	1.4649-1.4710
Saponification value	189 to 195
Iodine value	120 to 141

Unsaponifiable matter	Not more than 1.5 per cent
Acid value	Not more than 2.50 percent
Phosphorus	Not more than 0.02 percent

Test for argemone oil shall be negative.

However, it may contain food additives permitted in these regulations and **Appendix A**

Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2.** The oil so refined shall not contain Hexane more than 5.00 ppm.

**14 MAIZE (Corn) OIL** means the oil, extracted from the gram of clean and sound seeds of *Zea Mays Linn.* Fam. Graninae, refined. It shall be free from rancidity, suspended or other foreign matter, separated water, added colouring or flavouring substances or Mineral oil. It shall conform to the following standards:-

Butyro-refractometer reading at 40 °C	56.7 to 62.5 Or
Refractive Index at 40°C	1.4637-1.4675
Saponification value	187 to 195
Iodine value	103 to 128
Unsaponifiable matter	Not more than 1.5 per cent
Acid value	Not more than 0.50 percent

Test for argemone oil shall be negative.

However, it may contain food additives permitted in these regulations and **Appendix A**

Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2.** The oil so refined shall not contain Hexane more than 5.00 ppm.

**15 REFINED VEGETABLE OIL** means any vegetable oil which is obtained by expression or solvent extraction of vegetable oil bearing materials, deacidified with alkali and/or physical refining and/or by miscella refining using permitted foodgrade solvents followed by bleaching with absorbent earth and/or carbon and deodourised with steam. No other chemical agent shall be used. The name of the vegetable oil from which the refined oil has been manufactured shall be clearly specified on the label of the container. In addition to the under-mentioned standards to which refined vegetable oils shall conform to the standards prescribed in these regulations for the specified edible oils shall also apply except for acid value which shall be not more than 0.5. Moisture shall not exceed 0.10 per cent by weight.

Test for argemone oil shall be negative.

1. The refined vegetable oil shall be obtained from the following vegetable oils:

- (i) Coconut Oil
- (ii) Cottonseed Oil
- (iii) Groundnut Oil
- (iv) Nigerseed Oil
- (v) Safflower Oil
- (vi) Sesame Oil
- (vii) Soyabean Oil
- (viii) Sunflower Oil
- (ix) Mustard/Rapeseed Oil
- (x) Linseed Oil
- (xi) Mahua Oil
- (xii) Olive Oil
- (xiii) Poppyseed Oil
- (xiv) Taramira Oil
- (xv) Maize (Corn) oil
- (xvi) Watermelonseed Oil
- (xvii) Palm Oil
- (xviii) Palmolein
- (xix) Palm Kernel Oil
- (xx) Rice Bran Oil
- (xxi) Salseed fat
- (xxii) Mango Kernel fat
- (xxiii) Kokum fat
- (xxiv) Dhupa fat
- (xxv) Phulwara fat

2. The refined vegetable oil shall comply with the following requirements:

The oils shall be clear and free from rancidity, adulterants, sediments, suspended and other foreign matter, separated water, added colouring and flavouring substances and mineral oil

3. However, it may contain food additives permitted in these regulations and **Appendix A**

**16 ALMOND OIL** means the oil expressed from the seeds of *Prunus amygdalus Batach, var, dulcis Kochne* (sweet almond) or of *Prunus amygdalus Batach, var Amara Focke* (bitter almond) without the application of heat. It shall be clear from rancidity, suspended or other foreign matter, separated water, added colouring or flavouring substances or mineral oil. It shall conform to the following standards:-

Butyro-refractometer reading at 40 °C	54 to 57 Or
Refractive Index at 40°C	1.4620-1.4639
Saponification value	186 to 195
Iodine value	90 to 109
Acid value	Not more than 6.0 percent
Bellier test Turbidity temperature Acetic acid method	Not more than 60°C

Test for argemone oil shall be negative.

However, it may contain food additives permitted in these regulations and **Appendix A**

**17 WATER-MELON SEED OIL** means the oil extracted from the clean, sound seeds of the fruit of *Water-Melon (Citrullus vulgaris Schrad, Family: cucurbitaceae)*. It shall be clear, free from rancidity, adulterants, sediments, suspended and other foreign matter, separated water, added colouring and flavouring substances and mineral oil. It shall conform to the following standards:-

Moisture and volatile matter	Not more than 0.25 per cent
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Butyro-refractometer reading at 40 °C	55.6 - 61.7
Refractive Index at 40°C	Or 1.4630-1.4670
Saponification value	190 - 198
Iodine value	115 - 125
Acid value	Not more than 6.0 percent
Unsaponifiable matter	Not more than 1.5 per cent

Test for argemone oil shall be negative.

However, it may contain food additives permitted in these regulations and **Appendix A**

Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2**. The oil so refined shall not contain Hexane more than 5.00 ppm.

**18 RAPE-SEED GROWN ABROAD OIL - (*Toria-Ka-Tel*)** means:-

- (i) the oil obtained from clean and sound rapeseed grown abroad belonging to compestris, Juncea, or napus varieties of Brassica by the method of expression or solvent extraction and imported into India or,
- (ii) the oil produced in India obtained from clean and sound imported rapeseed belonging to compestris, Juncea, or napus varieties or Brassica by the method of expression or solvent extraction. It shall be clear, free from rancidity, suspended or other foreign matter, separated water, added colouring or flavouring substances or mineral oil. It shall conform to the following standards, namely:-

Butyro-refractometer reading at 40°C	51.0 - 64.8
	OR
Refractive Index at 40°C	1.4600 - 1.4690.
Iodine value (Wij's method).	94 - 126.
Saponification value	166 - 198.
Unsaponifiable matter	Not more than 2.0 per cent.]
Test for argemone oil	Negative.
Tests for Hydrocyanic acid (Ferric-chloride test)	Passes the test.

Acid value Not more than 6.0.

Bellier test: not more than 19°C (Turbidity temperature - Acetic acid method)

Rapeseed oil imported into India or rapeseed oil obtained by solvent extraction shall be supplied for human consumption only if it is refined and it shall conform to the standards laid down under **Article 15 of 5.2.2** except for acid value which shall be not more than 0.6. Additionally, it shall have Flash Point (Penske Marten closed method) not less than 250°C.

Test for argemone oil should be negative oil.

However, it may contain food additives permitted in these regulations and **Appendix A**

The oil so refined shall not contain Hexane more than 5.00 ppm.

**19 PALM OIL- Palm oil** means the oil obtained from fleshy mesocarp of fruits of the oil palm (*Elaeis Guineensis*) tree by the method of expression or solvent extraction. It shall be clear, free from rancidity, suspended or other foreign matter, separated water, added colouring and flavouring substances or mineral oil. It shall conform to the following standards, namely:-

Butyro-refractometer reading at 50 °C	35.5 - 44.0 Or
Refractive Index at 50 °C	1.4491-1.4552
Melting point (capillary slip method)	Not more than 37 °C

Iodine value(Wij's method)	45-56
Saponification value	195-205
Unsaponifiable matter	Not more than 1.2 per cent
Acid value	Not more than 10.0 percent

Indigenously produced raw Palm Oil obtained by method of expression may be supplied for human consumption as such provided acid value is not more than 6.0 But palm oil imported into the country or produced by solvent extraction shall be refined before it is supplied for human consumption and it shall conform to the standards laid down under **Article 15 of 5.2.2**. Additionally, it shall have Flash Point (Pensky-Marten closed method) - Not less than 250° C

Test for argemone oil shall be negative.

However, it may contain food additives permitted in these regulations and **Appendix A**

The oil so refined shall not contain Hexane more than 5.00 ppm.

**20 PALMOLEIN** means the liquid fraction obtained by fractionation of palm oil obtained from the fleshy mesocarp of fruits of oil palm (*Elaeis Guineensis*) tree by the method of expression or solvent extraction. It shall be clear, free from rancidity, suspended or other foreign matter separated water, added colouring and flavouring substances or mineral oils. It shall conform to the following standards, namely:-

Butyro-refractometer reading at 40 °C	43.7 - 52.5
Or	
Refractive Index at 40 °C	1.4550 - 1.4610
Iodine value (Wij's method)	54-62
Saponification value	195-205
Cloud Point	Not more than 18°C
Unsaponifiable matter	Not more than 1.2 per cent
Acid value	Not more than 6.0 percent

Further, if the palmolein is obtained from solvent extracted palm oil, it shall be refined before it is supplied for human consumption and it shall conform to the standards laid down under **Article 15 of 5.2.2**. Additionally, it shall have Flash Point (Penske Marten closed method) -

not less than 250°C.

Test for argemone oil shall be negative. However, it may contain food additives permitted in these regulations and **Appendix A**

The oil so refined shall not contain Hexane more than 5.00 ppm.

**21 - PALM KERNEL OIL** means the oil obtained from sound kernel of the fruits of oil palm (*Elaeis guinensis*) tree by the method of expression or solvent extraction. It shall be clear, free from rancidity suspended, or other foreign matter, separated water, added colouring and flavouring substances or mineral oil. It shall conform to the following standards, namely:-

Butyro-refractometer reading at 40 °C	35.1 - 39.5 Or
Refractive Index at 40 °C	1.4490 - 1.4520
Iodine value (Wij's method)	10 - 23
Saponification value	237-255
Unsaponifiable matter	Not more than 1.2 per cent
Acid value	Not more than 6.0 percent

Further, if the oil is obtained by the method of solvent extraction, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2**. Additionally, it shall have Flash Point (Penske Marten closed method) - not less than 250°C.

Test for argemone oil shall be negative.

However, it may contain food additives permitted in these regulations and **Appendix A**

The oil so refined shall not contain Hexane more than 5.00 ppm.

**22 SUN FLOWER SEED OIL** means the oil obtained from clean and sound sunflower seeds or cake from the plants *Helianthus annus linn* (*Family:compositae*) by the method of expression or solvent extraction. It shall be clear, free from rancidity, suspended or other foreign matter, separated water, added colouring or flavouring substances or mineral oil. It shall conform to the following standards, namely:-

Butyro-refractometer reading at 40 °C	57.1 - 65.0 Or
Refractive Index at 40 °C	1.4640 - 1.4691
Iodine value (Wij's method)	100 - 145
Saponification value	188-194
Unsaponifiable matter	Not more than 1.5 per cent
Acid value	Not more than 6.0 percent

Further, if the oil is obtained by the method of solvent extraction, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2**. Additionally, it shall have Flash Point (Penske Marten closed method) - not less than 250°C.

Test for argemone oil shall be negative.

However, it may contain food additives permitted in these regulations and **Appendix A**

The oil so refined shall not contain Hexane more than 5.00 ppm.

**22.01 Imported Sunflowerseed oil and Sunflowerseed oil (High Oleic Acid)** means the oil obtained from clean and sound Sunflowerseed or the High Oleic acid oil bearing Sunflowerseeds of *Helianthus annuus L.* by the method of expression or solvent extraction. It shall be clear, free from rancidity, suspended foreign matter, separated water, added colouring or flavouring substance or mineral oil. It shall contain not less than 75% oleic acid as percent of total fatty acids. It shall conform to the following standards:-

Parameters	High Oleic Acid Sunflowerseed Oil	Imported Sunflowerseed Oil
B.R. Reading	61.7-68.0 at 25°C	52.5-63.2 at 40°C
Or Refractive Index	1.467-1.471 at 25°C	1.461-1.468 at 40°C
Iodine value (Wijs method)	78-90	118-141
Saponification value	182-194	188-194

Unsaponifiable matter	Not more than 15g/kg	Not more than 15g/kg
Acid Value	Not more than 4.0 mg/KOH/g oil	Not more than 4.0 mg/KOH/g oil
Test for Argemone oil	Negative	Negative

Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2.** The oil so refined shall not contain Hexane more than 5.00 ppm.

**23 RICE BRAN OIL** means the oil obtained from the layer around the endosperm of rice obtained from paddy of *Oryza Sativa Linn.* Fam Gramineae which is removed during the process of rice milling and is generally known as rice bran.

Refined Rice Bran Oil shall be obtained from solvent extracted oil, neutralised with alkali, bleached with bleaching earth or activated carbon or both and deodorised with steam. Alternatively deacidification, bleaching and deodorisation may be done by physical means.

The oil shall be clear and free from rancidity, adulterants, sediments, suspended and other foreign matters, separated water and added colouring and flavouring substances. The clarity of the oil shall be judged by the absence of turbidity after keeping the filtered sample at 35°C for 24 hrs. Rice Bran Oil shall be sold for human consumption only after refining. It shall conform to the following standards, namely:-

Moisture and Volatile Matter	Not more than 0.1 percent by weight
Refractive Index at 40 °C	1.4600 - 1.4700 Or
Butyro-refractometer reading at 40 °C	51.0 - 66.4
Saponification value	180 - 195
Iodine value (Wij's method)	90 - 105
Acid value	Not more than 0.5

Unsaponifiable matter, percent by weight	
<ul style="list-style-type: none"> <li>▪ for chemically refined</li> <li>▪ for physically refined</li> <li>▪ Oryzanol Content</li> </ul>	<p>Not more than 3.5</p> <p>Not more than 4.5</p> <p>Not less than 1.0</p>
Flash Point (Penske Marten Closed method)	Not less than 250 °C

Test for argemone oil shall be negative.

However, it may contain food additives permitted in these regulations and **Appendix A**

Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2**. The oil so refined shall not contain Hexane more than 5.00 ppm.

**24 BLENDED EDIBLE VEGETABLE OIL** means an admixture of any two edible vegetable oils where the proportion by weight of any edible vegetable oil used in the admixture is not less than 20 per cent. The individual oils in the blend shall conform to the respective standards prescribed by these regulations. The blend shall be clear, free from rancidity, suspended or insoluble matter or any other foreign matter, separated water, added colouring matter, flavouring substances, mineral oil, or any other animal and non-edible oils, or fats, argemone oils, hydrocyanic acid, castor oil and tricresyl phosphate. It shall also conform to the following standards, namely:-

- a) Moisture and volatile matter not more than 0.2 per cent by weight;
- b) Acid value:-

<b>Nature of oil</b>	<b>Acid Value</b>
(1) Both raw edible vegetable oils in the blend	Not more than 6.0
(2) One raw edible vegetable oil (s) and one refined vegetable oil (s) in the blend	Not more than 5.0
(3) All refined edible vegetable oils in the blend	Not more than 0.5

(4) Unsaponifiable matter-	
(a) Blended with rice bran oil	Not more than 3.0 percent by weight
(b) Blended with other edible vegetable oil	Not more than 1.50 percent by weight
(5) Flash point (Penske Martin closed method)	Not less than 250°C

Test for Argemone oil shall be negative

However, it may contain food additives permitted in these regulations and **Appendix A**

Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2.**

The oil so refined shall not contain Hexane more than 5.00 ppm.

**Regulation 5.2.3 INTERESTERIFIED VEGETABLE FAT:** means an edible fatty material that has been so treated as to bring about a rearrangement of fatty acid positions within the glyceride entities and hence a change in the physical properties like melting point, viscosity, specific gravity and the like with very little change in the constitution of the fatty acids themselves by a process of interesterification of the essentially neutral edible oil or fat, singly or in mixtures generally through the use of alkaline catalysts exemplified by sodium or potassium metals, or their ethoxides or hydroxides in the form either of anhydrous powders or in anhydrous glycerol medium followed by such post-process steps as washing, bleaching and deodourisation, the last of which can be omitted if the interesterified fat is to be incorporated as part of the raw material for further processing in edible fat products.

The interesterified fat shall be clear, free from soap, flavouring substances, rancidity, suspended or other foreign matter, separated water and mineral oil. It shall conform to the following standards, namely:-

- (i) It shall not contain any harmful colouring, flavouring or any



other matter deleterious to health;

- (ii) No colour shall be added to interesterified fat unless so authorised by Government, but in no event any colour resembling the colour of ghee shall be added;
- (iii) If any flavour is used, it shall be distinct from that of ghee in accordance with a list of permissible flavours and in such quantities as may be prescribed by Government:

Provided that diacetyl to the extent of not more than 4.0 ppm may be added to interesterified fat exclusively meant for consumption by the Armed Forces;

- (iv) It shall not have moisture exceeding 0.25 per cent;
- (v) The melting point as determined by capillary slip method shall be from 31°C to 41°C, both inclusive;
- (vi) The Butyro-refractometer reading at 40°C, shall not be less than 48 or Refractive Index at 40°C shall not be less than 1.4580;
- (vii) It shall not have unsaponifiable matter exceeding 2.0 per cent;
- (viii) It shall not have free fatty acids (calculated as Oleic acid) exceeding 0.25 per cent;
- (ix) The product on melting shall be clear in appearance and shall be free from staleness or rancidity, and pleasant to taste and smell;
- (x) It shall contain raw or refined sesame (til) oil not less than 5 per cent by weight, but sufficient so that when it is mixed with refined groundnut oil in the proportion of 20:80, the colour produced by the Baudouin Test shall not be lighter than 2.0 red units in a 1 cm. cell on a Lovibond scale;
- (xi) It shall contain not less than 25 I.U. of synthetic Vitamin A per gram at the time of packing and shall show a positive test for Vitamin A when tested by Antimony Trichloride (Carr-Price) reagent (As per IS: 5886-1970);
- (xii) No anti-oxidant, synergist, emulsifier or any other such substance, other than those permitted by these regulations including **Appendix A** shall be added to it except with the prior sanction of the Government.

Test for argemone oil shall be negative.

However, it may contain food additives permitted in these regulations including **Appendix A**

Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2**. The oil so refined shall not contain Hexane more than 5.00 ppm.

#### **Regulation 5.2.4      PARTIALLY HYDROGENATED SOYABEAN OIL**

**1. PARTIALLY HYDROGENATED AND WINTERISED SOYABEAN OIL** means deodourised product obtained by light (mild or "Brush") hydrogenation of degummed, deacidified, decolourised and winterised soyabean oil. The oil shall be degummed by water with or without a food grade additive, deacidified by either neutralisation with alkali or steam distillation (physical refining) or miscella refining using permitted food grade solvent, decolourised with bleaching earth and/or carbon, partially hydrogenated using nickel catalyst, winterised with or without the use of a food grade solvent, filtered in a suitable filter press and deodourised with steam.

The product shall be clear, free from rancidity, suspended or other foreign matter, separated water, added colouring or flavouring substances, castor oil, mineral oil, and other vegetable and animal fats.

It may contain food additives permitted in these regulations and **Appendix A**. It shall conform to the following standards:

Moisture	Not more than 0.1 per cent by weight
Refractive index	1.4630-1.4690
OR	
Butyro refractometer reading at 40°C	55.6 to 64.8]
Saponification value	189-195]
Iodine value	107-120
Acid value	Not more than 0.50
Unsaponifiable matter	Not more than 1.5 percent by weight.
Linolenic acid (c 18:3)	Not more than 3 per cent by weight.
Cloud Point (°C)	Not less than 10°C.
Flash point (Penske-Maten closed method)	Not less than 250°C.

Test for argemone oil shall be negative

Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under Article 15 of 5.2.2. The oil so refined shall not contain Hexane more than 5.00 ppm.

**2. PARTIALLY HYDROGENATED SOYABEAN OIL** means deodourised product obtained by light (mild or "Brush") hydrogenation of degummed, deacidified, decolourised soyabean oil. The oil shall be degummed by water with or without a food grade additive, deacidified by either neutralisation with alkali or steam distillation (physical refining) or miscella refining using permitted food grade solvent, decolourised with bleaching earth and/or carbon and partially hydrogenated using nickel catalyst. The product shall again be deacidified, bleached and deodourised with steam.

The product shall be clear liquid at 35 degree C. It shall be clear on melting, free from rancidity, suspended or other foreign matter, separated water, added colouring or flavouring substances, castor oil, mineral oil or other vegetable and animal facts.

It may contain food additives permitted in these regulations and

## Appendix A

It shall conform to the following standards:

Moisture	Not more than 0.1 per cent by weight
Refractive index	1.4630-1.4670
	OR
Butyro refractometer reading at 40°C	55.6 - 61.7
Saponification value	189-195
Iodine value	95-110
Acid value	Not more than 0.50
Unsaponifiable matter	Not more than 1.5 percent by weight.
Linolenic acid (c 18:3)	Not more than 3 per cent by weight.
Cloud Point (°C)	Not less than 25°C.
Flash point (Penske-Marten closed method)	Not less than 250°C.
Test for argemone oil shall be negative.	

### Note :-

The edible oils prescribed under **Regulation 5.2.2** shall be free from Castor oil.

Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under **Article 15 of 5.2.2**. The oil so refined shall not contain Hexane more than 5.00 ppm.

### Regulation 5.2.5 EDIBLE FATS:

**1. BEEF FAT OR SUET** means fat obtained from a beef carcass. It shall have a Saponification value varying from 193 to 200 and an Iodine value from 35 to 46.

It may contain food additives permitted in these regulations and **Appendix A**

**2. MUTTON FAT** means fat obtained from the carcass of sheep. It shall have a Saponification value varying from 192 to 195 and an Iodine value from 35 to 46.

It may contain food additives permitted in these regulations and **Appendix A**

**3. GOAT FAT** means the rendered fat from goat. It shall have a Saponification value varying from 193 to 196 and Iodine value from 36 to 45.

It may contain food additives permitted in these regulations and **Appendix A**

**4. LARD** means the rendered fat from hogs and shall not contain more than one per cent of substances other than fatty acids and fat. It shall have a Saponification value varying from 192 to 198 and Iodine value from 52 to 65.

It may contain food additives permitted in these regulations and **Appendix A**

**5. COCOA BUTTER** means the fat obtained by expression from the nibs of the beans of *Theobroma cocoa* L. It shall be free from other oils and fats, mineral oil and added colours. It shall conform to the following standards:

Percentage of free fatty acids (calculated as oleic acid)	Not more than 1.5
Iodine value	32 to 42
Melting point	29° C to 34° C.
Butyro refractometer reading at 40°C OR Refractive Index at 40°C	40.9 to 48.0 1.4530-1.4580;
Saponification value	185 to 200

**6. LOW AND HIGH FAT COCOA POWDER** means the powder which is the partially defatted product derived from the cocoa bean the seed of *Theobroma cocoa* L. It may be subjected to treatments during manufacture with alkali and/or magnesium carbonate, bicarbonate, and with tartaric, citric or phosphoric acids. It shall be free from rancidity, dirt, filth, insects and insect fragments or fungus infestations. The product

may contain food additives permitted in **Appendix A**. It shall conform to the following standards:-

Total ash	Not more than 14.0 per cent (on moisture and fat free basis).	
Ash insoluble in dilute HCl	Not more than 1.0 per cent (on moisture and fat free basis).	
Alkalinity of total ash moisture and fat free Cocoa Butter	Not more than 6.0 per cent as basis).	K <sub>2</sub> O (on basis).
i) For Low Fat	Not less than 10.0 percent (on moisture free basis)	
ii) For High Fat	Not less than 20.0 percent (on moisture free basis)	

**7. REFINED SALSEED FAT** means the fat obtained from seed kernels of Sal trees, shorea robusta Gaertn, f.(N.O.dipterocarpaceae) which has been neutralized with alkali, bleached with bleaching earth or activated carbon or both, and deodorised with steam, no other chemical agents being used. Alternatively, deacidification, bleaching and deodorisation may be done by physical means. The material shall be clear on melting and free from adulterants, sediment, suspended or other foreign matter, separated water or added colouring substance. However, it may contain food additives permitted in these regulations including **Appendix A**. There shall be no turbidity after keeping the filtered sample at 40°C for 24 hours. It shall conform to the following standards:-

(i)	Moisture	Not more than 0.1 percent
(ii)	Butyro refractometer reading at 40 <sup>0</sup> C OR Refractive Index at 40 <sup>0</sup> C	36.7 – 51.0  1.4500 – 1.4600
(iii)	Iodine Value (Wijs' Method)	31 – 45
(iv)	Saponification value	180 – 195
(v)	Unsaponifiable matter	Not more than 2.5 percent by weight
(vi)	Free fatty acids (expressed as Oleic acid) Or Acid value	Not more than 0.25 percent by weight  Not more than 0.5
(vii)	9:10 epoxy and 9:10 Dihydroxy stearic acid	Not more than 3.0 percent by weight
(viii)	Flash point (Pensky Marten closed	Not less than 250 <sup>0</sup> C

	method)
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Test for argemone oil shall be negative

**8. CAROB POWDER** means the powder obtained from the roasted pods of carob (fibbled carob) of *Ceratonia Siliqua* (L) Taub. (fam. Leguminosae) and shall be free from husk. It shall be free from any artificial colouring, flavouring, extraneous matter or glazing substance and shall be in sound, dry and fresh condition, free from rancid or obnoxious flavours. It shall also conform to the following standards, namely:-

Total ash	Not more than 1.2 per cent by weight.
Acid insoluble matter	Not more than 5 per cent by weight.
Tannin content	Not less than 0.1 per cent and not more than 0.15 per cent.

**9. Kokum Fat** means the fat obtained from clean and sound kernels of Kokum (*Garcinia indica choisy*) "also known as kokum, by process of expression or by a process of solvent extraction from cake or kernel. It shall be refined. The fat shall be clear on melting and free from rancidity, adulterants, sediments, suspended or other foreign matter, separated water, added colouring and flavouring matters and mineral oil." However, it may contain food additives permitted in these regulations and **Appendix A.**

It shall also conform to the following standards, namely:-

(a)	Butyro-refractometer reading at 40° C, or Refractive Index at 40° C	45.9—47.3
		1.4565 to 1.4575
(b)	Saponification value	187—191.7
(c)	Unsaponifiable matters	Not more than 1.5 per cent by weight
(d)	Iodine value (wijs)	32—40
(e)	Acid value	Not more than 0.5
(f)	Flash Point Pensky-Martens (closed) method	Not less than 250° C

Test for argemone oil shall be negative.

**10. Mango Kernel Fat** means the fat obtained from clean and sound kernels of Mango (*Magifera Indica* Linn) by process of expression or by a

process of solvent extraction from cake or kernel. It shall be refined. The fat shall be clear on melting and free from rancidity, adulterants, sediment suspended or other foreign matter, separated water, added colouring and flavouring matters and mineral oil. However, it may contain food additives permitted in these regulations and **Appendix A**.

It shall also conform to the following standards, namely :-

(a)	Butyro-refractometer reading at 40 <sup>0</sup> C, or Refractive Index at 40 <sup>0</sup> C	43.7—51.6 1.4550 to 1.4604
(b)	Saponification value	185—198
(c)	Unsaponifiable matters	Not more than 1.5 per cent by weight
(d)	Iodine value (wijs)	32—57
(e)	Acid value	Not more than 0.5
(f)	Flash Point Pensky-Martens (closed) method	Not more than 250 <sup>0</sup> C

Test for argemone oil shall be negative.

**11. Dhupa Fat** means the fat obtained from clean and sound seed kernels of Dhupa, also known as Indian Copal (*Vateria Indica* Linn) tree by process of expression or by a process of solvent extraction from cake or kernel. It shall be refined. The fat shall be clear on melting and free from rancidity, adulterants, sediment, suspended or other foreign matter, separated water, added colouring and flavouring matter and mineral oil. However, it may contain food additives permitted in these regulations and **Appendix A**

It shall also conform to the following standards, namely :-

(a)	Butyro-refractometer reading at 40 <sup>0</sup> C, or Refractive Index at 40 <sup>0</sup> C	47.5—49.5 1.4576 to 1.4590
(b)	Saponification value	187—192
(c)	Unsaponifiable matters	Not more than 1.5 per cent by weight.
(d)	Iodine value (wijs)	36—43
(e)	Acid value	Not more than 0.5
(f)	Flash Point Penske-Martens (closed) method	Not less than 250 <sup>0</sup> C

Test for argemone oil shall be negative.



**12. Phulwara Fat** means the fat obtained from clean and sound seed kernels of Phulwara [variously named *Aisandra Butyrace* (Roxb) Baelni, *Madhuca Butyracea* or *Bassia Butyracea*] by a process of expression or by a process of solvent extraction from cake or Kernel. It shall be refined. The fat shall be clear on melting and shall be free from rancidity, adulterants sediments, suspended on other foreign matters, separated water, added colouring and flavouring substances and mineral oil. However, it may contain food additives permitted in these regulations and **Appendix A**.

It shall also conform to the following Standards, namely :-

(a)	Butyro-refractometer reading at 40 <sup>0</sup> C, or Refractive Index at 40 <sup>0</sup> C	48.6—51.0 1.4584 to 1.4600
(b)	Saponification value	192.5—199.4
(c)	Unsaponifiable matters	Not more than 1.5 per cent by weight.
(d)	Iodine value (wijs)	43.8—47.4
(e)	Acid value	Not more than 0.5
(f)	Flash Point Penske-Martens (closed) method	Not less than 250 <sup>0</sup> C

Test for argemone oil shall be negative.

### **Regulation 5.2.6 MARGARINE AND FAT SPREADS:**

**1. TABLE MARGARINE** means an emulsion of edible oils and fats with water. It shall be free from rancidity, mineral oil and animal body fats. It may contain common salt not exceeding 2.5 per cent, skimmed milk powder not exceeding 2 per cent; it may contain food additives permitted in these regulations and **Appendix A**. It shall conform to the following specifications, namely:—

Fat	Not less than 80 per cent	mass/mass.
Moisture	Not less than 12 per cent and not more than 16 per cent	mass/mass.
Vitamin A	Not less than 30 I.U. per gram of	the product at the time of sale.
Melting point of extracted fat (Capillary Slip method)	31 <sup>0</sup> C to 37 <sup>0</sup> C	

Unsaponifiable matter of extracted fat      Not more than 1.5 per cent by weight.

Free fatty acids (as oleic acid) of extracted fat      Not more than 0.25 per cent by weight

Acid value      or      Not more than 0.5

It shall contain not less than 5.0 percent of its weight of Til oil but sufficient to ensure that when separated fat is mixed with refined groundnut oil in the proportion of 20:80 the red colour produced by the Baudouin test shall not be lighter than 2.5 red units in 1 cm cell on a lovibond scale.

PROVIDED that such coloured and flavoured margarine shall also contain starch not less than 100 ppm and not more than 150 ppm.

PROVIDED further that such coloured and flavoured margarine shall only be sold in sealed packages weighing not more than 500gms.

Test for Argemone oil shall be negative

**2. Bakery and Industrial Margarine-** means an emulsion of vegetable oil product with water. It shall be free from added colour and flavour, rancidity, mineral oil and animal body fats. It may contain common salt not exceeding 2.5 percent. However, it may contain food additives permitted in these regulations and **Appendix A**. It shall conform to the following standards, namely:-

Fat      Not less than 80 per cent m/m.

Moisture      Not less than 12 per cent and  
Not more than 16 per cent m/m.

The separated fat of the products shall conform to the following :-

(i)	Vitamin A	Not less than 30 IU per gram at the time of packaging and shall show a positive test for Vitamin 'A' when tested by Antimony trichloride (carrprice) reagents (as per IS 5886-1970).
(ii)	Melting point by Capillary slip method	31°C - 41°C

(iii)	Unsaponifiable matter	Not exceeding 2.0 per cent but in case of the products where proportion of Rice bran oil is more than 30 per cent by wt. the unsaponifiable matter shall be not more than 2.5 per cent by wt. provided quantity of Rice bran oil is declared on the label of such product as laid down in <b>Article 32 of Regulation 4.4.4.</b>
(iv)	Free Fatty Acid calculated as Oleic acid or	Not more than 0.25 per cent.
	Acid value	Not more than 0.5.

It shall contain raw or refined sesame oil (Til oil) in sufficient quantity so that when the product is mixed with refined groundnut oil in the proportion of 20 : 80, the colour produced by the Boudouin test shall not be lighter than 2.0 red unit in a 1 cm. cell on a Lovibond scale.

Test for argemone oil shall be negative.

**3. Fat spread** means a product in the form of water in oil emulsion, of an aqueous phase and a fat phase of edible oils and fats excluding animal body fats. The individual oil and fat used in the spread shall conform to the respective standards prescribed by these regulations.

Fat spread shall be classified into the following three groups:-

S.No	Types	Characteristics
(a)	Milk fat spread	Fat content will be exclusively milk fat.
(b)	Mixed fat spread	Fat content will be a mixture of milk fat with any one or more of hydrogenated, unhydrogenated refined edible vegetable Oils or interesterified fat.
(c)	Vegetable fat spread	Fat content will be a mixture of any two or more of hydrogenated, unhydrogenated refined vegetable oils or interesterified fat.

The fat content shall be declared on the label. In mixed fat spread, the milk fat content shall also be declared on the label alongwith the total fat content.

The word 'butter' will not be associated while labelling the product.

It may 'contain' edible common salt not exceeding 2 per cent by weight in

aqueous phase; milk solid not fat: It may contain food additives permitted in these regulations and **Appendix A**. It shall be free from animal body fat, mineral oil and wax. Vegetable fat spread shall contain raw or refined Sesame oil (Til oil) in sufficient quantity so that when separated fat is mixed with refined groundnut oil in the proportion of 20.08 the red colour produced by Baudouin test shall not be lighter than 2.5 red units in 1 cm cell on a Lovibond scale.

It shall also conform to the following standards, namely:-

(i) Fat	Not more than 80 per cent and not less than 40 per cent by weight.
(ii) Moisture	Not more than 56 per cent and not less than 16 per cent by weight.
(iii) Melting point of Extracted fat (capillary slip method) in case of vegetable fat spread	Not more than 37°C
(iv) Unsaponifiable matter of extracted fat (a) In case of milk fat and mixed fat spread (b) In case of vegetable fat spread (c) Acid value of extracted fat	Not more than 1 per cent by weight  Not more than 1.5 per cent  Not more than 0.5
(v) The vegetable fat spread shall contain	Not less than 25 IU synthetic vitamin 'A' per gram at the time of packing and shall show a positive test for vitamin 'A' when tested by Antimony Trichloride (Carr-Price) reagents (as per I.S. 5886 – 1970)".

(vi) It shall contain Starch	Not less than 100 ppm and Not mor than 150 ppm

It shall be compulsorily sold in sealed packages weighing not more than 500g. under Agmark certificate mark.

### **Regulation 5.2.7 HYDROGENATED VEGETABLE OILS**

**1. VANASPATI** means any refined edible vegetable oil or oils, subjected to a process of hydrogenation in any form. It shall be prepared by hydrogenation from groundnut oil, cottonseed oil and sesame oil or mixtures thereof or any other harmless vegetable oils allowed by the government for the purpose. Refined sal seed fat, if used, shall not be more than 10 per cent of the total oil mix. Vanaspati shall be prepared from one or more of the following vegetable oils:

- a. Coconut oil
- b. Cotton-seed oil
- c. Dhupa oil
- d. Groundnut oil
- e. Kokrum oil
- f. Linseed oil
- g. Mahua oil
- h. Maize (Corn) oil
- i. Mango kernel oil
- j. Mustard/Rape-seed oil
- k. Niger-seed oil
- l. Palm oil
- m. Phulwara oil
- n. Rice bran oil
- o. Sunflower (Kard/seed) oil

- p. Salseed oil (up to 10%)
- q. Sesame oil
- r. Soyabean oil
- s. Sunflower oil
- t. Watermelon seed oil
- u. Vegetable oils imported for edible purposes:

It shall conform to the standards specified below:-

- (i) It shall not contain any harmful colouring, flavouring or any other matter deleterious to health;
- (ii) No colour shall be added to hydrogenated vegetable oil unless so authorised by Government, but in no event any colour resembling the colour of ghee shall be added;
- (iii) If any flavour is used, it shall be distinct from that of ghee in accordance with a list of permissible flavours and in such quantities as may be prescribed by Government:  
Provided that diacetyl to the extent of not more than 4.0 p.p.m. may be added to Vanaspati exclusively meant for consumption by the Armed Forces;
- (iv) The product on melting shall be clear in appearance and shall be free from staleness or rancidity, and pleasant to taste and smell;
- (v) It shall contain raw or refined sesame (til) oil in sufficient quantity so that when the vanaspati is mixed with refined groundnut oil in the proportion of 20:80, the colour produced by the Baudouin test shall not be lighter than 2.0 red units in a 1 cm. cell on a Lovibond scale;
- (vi) No anti-oxidant, synergist, emulsifier or any other substance shall be added to it except with the prior sanction of the Government.

Provided that imported crude oil and fractions thereof shall not be used by the products other than those who are engaged in manufacture of vanaspati/any other hydrogenated oil produce and are equipped in the same location with the facilities for generation

of hydrogen gas and hydrogenation of the said imported crude palm oil and fractions thereof with the gas so generated in the manufacture of vanaspati/any other hydrogenated vegetable oil product for edible consumption.

(vii) The product shall conform to the following requirements:

- a) Moisture, percent by mass: Not more than 0.25
- b) Melting point: 31 – 41 degree Celsius
- c) Butyro-refractrometer reading at 60 degree Celsius :Not less than 40.0
- d) Unsaponifiable matter, per cent by mass:
  - i) Where the use of rice bran oil in vanaspati is less than 30 percent by mass: Not more than 2.0
  - ii) Where the use of rice bran oil in vanaspati is more than 30 percent by mass: Not more than 3.4
- e) Free fatty acid (as oleic acid), percent by mass: Not more than 0.25
- f) Baudouin Test (in 1 cm cell on Lovibond scale): Not lighter than 2.0 Red Units
- g) Synthetic Vitamin 'A': Not less than 25.0 International units per gram at the time of packing and shall test positive when tested with Antimony Trichloride (carr-Price Reagent)
- h) Residual Nickel: Not more than 1.5 ppm
- i) Test for argemone oil shall be negative.

**2. BAKERY SHORTENING** means vanaspati meant for use as a shortening or leavening agent in the manufacture of bakery products, that is, for promoting the development of the desired cellular structure in the bakery product with an accompanying increase in its tenderness and volume; this will also conform to the standards prescribed in **Article 1 of 5.2.7** excepts that-





## Fruit Cocktail

### 1. **Thermally Processed Fruit Cocktail / Tropical Fruit Cocktail (Canned, Bottled, Flexible Pack And / Or Aseptically Packed)**

means the product prepared from a mixture of fruits which shall be declared on the label. Such fruits may be fresh, frozen, dehydrated or previously processed. The fruit mixture may be packed with any suitable packing medium and processed by heat in an appropriate manner before or after being sealed in a container so as to prevent spoilage. The packing medium alongwith its strength when packed shall be declared on the label.

2. The name of the fruits used in the product and prepared in any style shall be declared on the label alongwith the range of percentage of each fruit used in the product. The drained weight of fruits shall be not less than the weight given below:-

(a)	Liquid pack	50.0 percent of net weight of contents
(b)	Solid Pack	70.0 percent of net weight of contents

3. The product may contain food additives permitted in these regulations including **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

## Regulation 5.3.3: Thermally Processed Vegetables

### 1. **Thermally Processed Vegetables (Canned, Bottled/Flexible pack / Aseptically Packed)**

means the product obtained from fresh, dehydrated or frozen vegetables either singly or in combination with other vegetables, peeled or un-peeled, with or without the addition of water, common salt and nutritive sweeteners, spices and condiments or any other ingredients suitable to the product, packed with any suitable packing medium appropriate to the product processed by heat, in an appropriate manner, before or after being sealed in a container so as to prevent spoilage. The packing medium alongwith its strength shall be

declared on the label. The product may be prepared in any suitable style appropriate to the product. The product may contain food additives permitted in these regulations including **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. The name of the vegetables used in the product and prepared in any style shall be declared on the label alongwith the range of percentage of each vegetable used in the product. Drained weight of vegetables shall be not less than the weight given below:-

(i) Liquid Pack	50.0 percent of net weight of contents
(a) Mushroom	
(b) Green beans, carrots, peas, sweet corn/ baby corn	50.0 percent of net weight of contents
(c) Mushroom Packed in sauce	25.0 percent of net weight of contents
(d) Other Vegetables	50.0 percent of net weight of contents
(ii) Solid Pack	70.0 percent of net weight of contents

2. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

**Regulation 5.3.4: Thermally Processed Curried Vegetables / Ready to Eat Vegetables**

**1. Thermally Processed Curried Vegetables / Ready to Eat Vegetables** means the product prepared from fresh, dehydrated or frozen or previously processed vegetables, legumes, cereals or pulses, whether whole or cut into pieces. The vegetable(s), either singly or in combination, may be prepared in any suitable style applicable for the

respective vegetable in normal culinary preparation. It may contain salt, nutritive sweeteners, spices and condiments, edible vegetable oils and fats, milk fat and any other ingredients suitable to the product and processed by heat, in an appropriate manner, before or after being- in a container, so as to prevent spoilage.

2. The product may contain food additives permitted in these regulations including **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**.

3. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

#### **Regulation 5.3.5: Thermally Processed Vegetable soups**

**1. Thermally Processed Vegetable Soups (Canned, Bottled, flexible pack And/ Or Aseptically Packed)** means unfermented but fermentable product, intended for direct consumption, prepared from juice/ pulp/puree of sound, mature vegetables, fresh, dehydrated, frozen or previously processed, singly or in combination, by blending with salt, nutritive sweeteners, spices and condiments and any other ingredients suitable to the product, cooked to a suitable consistency and processed by heat in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage. It may be clear, turbid or cloudy.

2. The product shall have total soluble solids (m/m) not less than 5.0 percent except for tomato soup where it shall be not less than 7.0 percent (w/ w).

3. The product may contain food additives permitted in these regulations including **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**.

4. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the

volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

**Regulation 5.3.6: Thermally Processed Fruits Juices**

**1. Thermally Processed Fruits Juices (Canned, Bottled, Flexible And/Or Aseptically Packed)** means unfermented but fermentable product, pulpy, turbid or clear, intended for direct consumption obtained by a mechanical process from sound, ripe fruit or the fresh thereof and processed by heat, in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage. The juice may have been concentrated and later reconstituted with water suitable for the purpose of maintaining the essential composition and quality factors of the juice. It may contain salt.

The product shall meet the following requirements:

One or more of the nutritive sweeteners may be added in amounts not exceeding 50 g/kg but not exceeding 200g/kg in very acidic fruits except in case of apple juice, orange juice, reconstituted from concentrate, grape juice, pineapple juice (reconstituted from concentrate).

<b>Product</b>	<b>Variety</b>	<b>Minimum percentage of fruit juice required in the final product</b>
Unsweetened Juice	Any suitable kind and variety	100
Sweetened Juice	Any suitable kind and variety	85

<b>S. NO</b>	<b>TSS Min (%)</b>	<b>Acidity expressed as Citric Acid Max (%)</b>
1. Apple Juice	10	3.5 (as malic acid)
2. Orange Juice	10	3.5
3. Grape fruit juice	9	-
4. Lemon juice	6	4.0 min

5. Lime juice	-	5.0 min
6. Grape juice	15	3.5
7. Pine apple juice	10	3.5
8. Black Current	11	3.5
9. Mango Pulp (unsweetened)	12	3.5
9A Canned Mango Pulp (Sweetened)	15	0.3% minimum
10. Guava or any other pulp	6 (exclusive of added sugars)	3.5
11. Other fruit juices of single species-not very acidic	10	3.5
12. Other fruit juices of single species- very acidic	10	3.5
13. Other fruit juices of single species or combinbation tehrof- very acidic	10	3.5

2. The product may contain food additives permitted in these regulations including **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**.

The product shall meet the following requirements:-

## FRUIT JUICES

	TSS Min. (%)	Acidity expressed as Citric Acid Max. (%)	Added Nutritive Sweeteners Max (g/kg)
1. Apple Juice	10	3.5 (as malic acid)	–
2. Orange Juice			
(a) Freshly expressed	10	3.5	50
(b) reconstituted from concentrate	10	3.5	–
3. Grape Fruit Juice	9	–	50
4. Lemon Juice	6	4.0	200
5. Lime Juice	–	5.0	200
6. Grape Juice			
(a) Freshly expressed	15	3.5	–
(b) reconstituted from concentrate	15	3.5	–
7. Pineapple Juice			
(a) Freshly expressed	10	3.5	50
(b) reconstituted from concentrate	10	3.5	–

8. Black Current	11	3.5	200
9. Mango Guava or any other pulp fruit	15	3.5	GMP
10. Other Fruit Juices of single species - not very acidic	10	3.5	50
11. Other Fruit Juices of single species - very acidic	10	3.5	200
12. Other Fruit Juices of single species or combination thereof-not very acidic	10	3.5	50
13. Other Fruit Juices of single species or combination thereof - very acidic	10	3.5	200

3. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

### **Regulation 5.3.7 Thermally Processed Vegetable Juices**

**1. Thermally Processed Vegetable Juices (Canned, Bottled, Flexible Pack And/Or Aseptically Packed)** means the unfermented but fermentable product or may be lactic acid fermented product

intended for direct consumption obtained from the edible part of one or more vegetables, including roots, and tubers (e.g. carrots, garlic) stems & shoots (e.g. Asparagus), leaves & flowers (e.g. spinach and cauliflower) and legumes (e.g. peas) singly or in combination, may be clear, turbid or pulpy, may have been concentrated & reconstituted with water suitable for the purpose of maintaining the essential composition & quality factors of the juice and processed by heat, in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage. It may contain salt, nutritive sweeteners, spices and condiments, vinegar, whey or lactoserum having undergone lactic acid fermentation not more than 100 gm/kg and any other ingredients suitable to the product.

2. The product shall have total soluble solids free of added salts not less than 5.0 percent (w/w).

3. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**.

4. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

### **Regulation 5.3.8 Thermally Processed Tomato Juice:**

**1. Thermally Processed Tomato Juice** means the unfermented juice obtained by mechanical process from tomatoes (*Lycopersicum esculentus* L) of proper maturity and processed by heat, in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage. The juice may have been concentrated and reconstituted with water for the purpose of maintaining the essential composition and quality factors of the juice. The product may contain salt and other ingredients suitable to the product. The product shall be free from skin, seeds and other coarse parts of tomatoes. The product shall have pleasant taste and flavour characteristic of tomatoes free from off flavour and evidence of fermentation.

2. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. The product shall conform to the requirements of Total Soluble Solids m/m free of added salt to be not less than 5.0 percent.

3. The container shall be well filled with the product and shall occupy not less than 90.0 percent of water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

**Regulation 5.3.9 Thermally Processed Fruit Nectars:**

**1. Thermally Processed Fruit Nectars (Canned, Bottled, Flexible Pack And / Or Aseptically Packed)** means an unfermented but fermentable pulpy or non-pulpy, turbid or clear product intended for direct consumption made from fruit singly or in combination, obtained by blending the fruit juice / pulp/fruit juice concentrate and/ or edible part of sound, ripe fruit(s), concentrated or unconcentrated with water, nutritive sweeteners/ artificial sweeteners and any other ingredient appropriate to the product and processed by heat, in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage.

2. Lemon and Lime juice may be added as an acidifying agent in quantities which would not impair characteristic fruit flavour of the fruit used. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. It shall meet the following requirements:-

	<b>TSS Min. (%)</b>	<b>Min. Fruit Juice Content (%)</b>	<b>Acidity Expressed as Citric Acid Max (%)</b>
<b>NECTARS OF CITRUS JUICE</b> Orange Nectar	15	40	1.5



Grape Fruit Nectar	15	20	1.5
Pineapple Nectar	15	40	1.5
Mango Nectar	15	20	1.5
Guava Nectar	15	20	1.5
Peach Nectar	15	20	1.5
Pear Nectar	15	20	1.5
Apricot Nectar	15	20	1.5
Non-pulpy Black Currant Nectar	15	20	1.5
Other Fruit Nectar	15	20	1.5
Other Fruit Nectars of High Acidity/ Pulpy / Strong Flavour	15	20	1.5
Mixed Fruit Nectar	15	20	1.5

3. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

**Regulation 5.3.10: Thermally Processed Fruit Beverages / Fruit Drink/ Ready to Serve Fruit Beverages**

**1. Thermally Processed Fruit Beverages / Fruit Drink/ Ready to Serve Fruit Beverages (Canned, Bottled, Flexible Pack And/ Or Aseptically Packed)** means an unfermented but fermentable product which is prepared from juice or Pulp/Puree or concentrated juice or pulp of sound mature fruit. The substances that may be added to fruit juice or

pulp are water, peel oil, fruit essences and flavours, salt, sugar, invert sugar, liquid glucose, milk and other ingredients appropriate to the product and processed by heat, in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage.

2. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. The product shall meet the following requirements:-

(i)	Total Soluble solid (m/m)	Not less than 10.0 percent
(ii)	Fruit juice content (m/m)	
(a)	Lime/Lemon ready to serve beverage	Not less than 5.0 percent
(b)	All other beverage/drink	Not less than 10.0 percent

3. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

### **Regulation 5.3.11: Thermally Processed Mango Pulp / Puree and Sweetened Mango Pulp / Puree**

**1. Thermally Processed Mango Pulp / Puree and Sweetened Mango Pulp / Puree (Canned, Bottled, Flexible Pack And/ Or Aseptically Packed)** means unfermented but fermentable product intended for direct consumption obtained from edible portion of sound, ripe mangoes (*Mangifera indica*.L.), by sieving the prepared fruits, where as, the puree is obtained by finely dividing the pulp by a finisher or other mechanical means and processed by heat in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage.

2. It may contain one or more nutritive sweeteners in amounts not exceeding 50 gm/ kg. However, the product shall be described as sweetened Mango pulp/ puree if the amount of nutritive sweeteners is in excess of 15 gm / kg.

3. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. It shall meet the following requirements:-

(i) Total Soluble Solids (m/m)

(a)	Sweetened	Not less than 15.0 percent
(b)	Unsweetened	Not less than 12.0 percent

	(Natural Mango Pulp)	
(ii)	Acidity as Citric Acid (For sweetened canned mango pulp)	Not less than 0.3 percent

4. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

**Regulation 5.3.12 Thermally Processed Fruit Pulp / Puree And Sweetened Fruit Pulp / Puree other than Mango**

**1. Thermally Processed Fruit Pulp / Puree And Sweetened Fruit Pulp / Puree other than Mango (Canned, Bottled, Flexible Pack And / Or Aseptically Packed)** means unfermented but fermentable product intended for direct consumption obtained from edible portion of sound, ripe fruit of any suitable kind & variety by sieving the prepared fruits, where as, the puree is obtained by finely dividing the pulp by a finisher or other mechanical means and processed by heat in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage.

2. It may contain one or more nutritive sweeteners in amounts not exceeding 50 gm/Kg. However, the product shall be described as sweetened pulp/puree if the amount of nutritive sweeteners is in excess of 15 gm. /kg.

3. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. It shall meet the following requirements:-

(i)	Total Soluble Solids (m/m) exclusive of added sugar	Not less than 6.0 percent
(ii)	Acidity as Citric Acid	Not less than 0.3 percent

The container shall be filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

**Regulation 5.3.13 Thermally Processed Concentrated Fruit / Vegetable Juice Pulp/ Puree**

**1. Thermally Processed Concentrated Fruit / Vegetable Juice Pulp/ Puree (Canned, Bottled, Flexible Pack And/ Or Aseptically Packed)** means the unfermented product which is capable of fermentation, obtained from the juice or pulp or puree of sound, ripe fruit(s) / vegetable(s), from which water has been removed to the extent that the product has a total soluble content of not less than double the content of the original juice/ pulp/ puree prescribed vide in Regulation 5.3.6 and 5.3.7. 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.

2. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

**Regulation 5.3.14 Thermally Processed Tomato Puree And Paste**

**1. Thermally Processed Tomato Puree And Paste (Canned, Bottled, Flexible Pack And/ Or Aseptically Packed)** means unfermented product which is capable of fermentation, obtained by concentrating the juice of sound ripe tomatoes to the desired concentration. It may contain salt and other ingredients suitable to the products.

2. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. It shall meet the following requirements:-

S.No.	Product	Total Soluble Solids (w/w)
1.	Tomato Puree	Not less than 9.0 percent
2.	Tomato Paste	Not less than 25.0 percent

3. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

**Regulation 5.3.15 Soup Powders:**

**1. Soup Powders** means the products obtained by mechanical dehydration of fresh vegetables/ fruits juice / pulp/puree of sound, vegetables / fruits and or earlier concentrated, dehydrated, frozen or processed fruits & vegetables, singly or in combination by blending with salt, nutritive sweeteners, spices and condiments and any other ingredients suitable to the product, as appropriate to the product and packed suitably to prevent spoilage.

2. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. The product shall comply with the following requirements:-

(i)	Moisture (m/m)	Not more than 5.0 percent
(ii)	Total soluble solids (m/m) (on dilution on ready to serve basis)	Not less than 5.0 percent

**Regulation 5.3.16 Fruit/Vegetable Juice / Pulp/ Puree With Preservatives For Industrial Use only:**

**1. Fruit/Vegetable Juice / Pulp/ Puree With Preservatives For Industrial Use only** means an unfermented but fermentable product, pulpy, turbid or clear, obtained by a mechanical process from sound ripe fruits/ vegetables.

2. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**.

3. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of

holding when completely filled.

**Regulation 5.3.17 Concentrated Fruit Vegetable Juice /Pulp / Puree With Preservatives For Industrial Use Only:**

**1. Concentrated Fruit Vegetable Juice /Pulp / Puree With Preservatives For Industrial Use Only** means an unfermented product, which is capable of fermentation, obtained from the juice or pulp or puree of fruit(s) / vegetable (s), from which the water has been removed to the extent that the product has a soluble solids content of not less than double the content of the original juice, pulp, puree prescribed under **Regulation 5.3.6 and Regulation 5.3.7**. It may be pulpy, turbid or clear.

2. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**.

3. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

**Regulation 5.3.18 Tamarind Pulp/Puree And Concentrate:**

**1. Tamarind Pulp/Puree And Concentrate** means 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 by using permitted preservatives.

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

3. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. It shall meet the following requirements:-

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

4. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

**Regulation 5.3.19 Fruit Bar/ Toffee:**

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

2. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. The product shall comply with the following requirements:-

(i)	Moisture (m/m)	Not more than 20.0 percent
(ii)	Total soluble solids (m/m)	Not less than 75.0 percent
(iii)	Fruit content (m/m)	Not less than 25.0 percent

**Regulation 5.3.20 Fruit/Vegetable, Cereal Flakes:**

**1. Fruit/Vegetable, Cereal Flakes** means the product prepared by blending fruit(s) Pulp/Puree of sound ripe fruit(s) / vegetables of any suitable variety, fresh, frozen or previously preserved, starch, cereals & nutritive sweeteners, other ingredients appropriate to the product with or without salt & dehydrated in the form of flakes.

2. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. The product shall comply with the following requirements:-

(i)	Moisture (m/m)	Not more than 6.0 percent
(ii)	Acid insoluble Ash (m/m)	Not more than 0.5 percent
(iii)	Starch (m/m)	Not more than 25.0 percent

**Regulation 5.3.21 Squashes, Crushes, Fruit Syrups/Fruit Sharbats and Barley Water:**

**1. Squashes, Crushes, Fruit Syrups/Fruit Sharbats and Barley Water** means the product prepared from unfermented but fermentable fruit juice/puree or concentrate clear or cloudy, obtained from any suitable fruit or several fruits by blending it with nutritive sweeteners, water and with or without salt, aromatic herbs, peel oil and any other ingredients suitable to the products.

1.1 Cordial means a clear product free from any cellular matter, obtained by blending unfermented but fermentable clarified fruit juice with nutritive sweeteners & water with or without salt and peel oil and any other ingredients suitable to the products.

1.2. Barley water 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 percent and any other ingredient suitable to the product.

1.3 The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. The product shall comply with the following requirements:-

Name of the Products	Min (%) of fruit juice/puree in the final product	Total Soluble Solids Min (%)	Acidity express as Citric Acid Max (%)
(1) Squash	25	40	3.5
(2) Crush	25	55	3.5
(3) Fruit Syrup/ Fruit Sharbats	25	65	3.5
(4) Cordial	25	30	3.5
(5) Barley Water	25	30	2.5

1.4 Any syrup/ sharbats containing a minimum of 10 percent of dry



fruits shall also qualify to be called as fruits syrups.

1.5 The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

### **Regulation 5.3.22 Ginger Cocktail:**

**1. Ginger Cocktail (Ginger Beer Or Gingerale)** means the product prepared by blending ginger juice or its oleoresin or essence with water and nutritive sweeteners.

2. The product shall be free from extraneous matter. When suitably diluted shall have the colour and flavour characteristic of the product.

3. The minimum total soluble solids shall not be less than 30.0 percent (m/ m).

4. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**.

5. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

### **Regulation 5.3.23 Synthetic Syrup for use in Dispensers for carbonated water:**

**1. Synthetic Syrup for use in Dispensers for carbonated water** means carbonated water obtained by blending nutritive sweeteners with water and other ingredients appropriate to the product.

2. The total soluble solid content (m/m) of the product shall not be less than 30 percent. The product when suitably reconstituted shall conform to the requirements of carbonated water and match in all respects, except Carbon Dioxide contents, with similar product as bottled for direct consumption. It shall be free from extraneous matter.

3. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**.

4. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

### **Regulation 5.3.24 Murabba**

**1. Murabba** means the product, prepared from suitable, sound whole or cut grated fruits, rhizome or vegetables, appropriately prepared, suitable for the purpose, singly or in combination, by impregnating it, with nutritive sweeteners to a concentration adequate to preserve it.

2. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. The product shall conform to the following composition:

(i) Total soluble solids (m/m)	Not less than 65.0 percent
(ii) Fruit contents (m/m)	Not less than 55.0 percent

3. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

### **Regulation 5.3.25 Candied, Crystallised And Glazed Fruit / Vegetable / Rhizome / Fruit Peel:**

**1.1 Candied Fruits / Vegetables/ Rhizome / Fruit Peel** means the product prepared from sound and ripe fruits, vegetables, rhizomes or fruit peel, of any suitable variety, appropriately prepared, by impregnating it with nutritive sweeteners to a concentration adequate to preserve it.

**1.2 Crystallised Fruit / Vegetable/ Rhizome / Fruit Peel** means the product prepared from candied product by coating with pure crystallised sugar or by drying the syrup on wet candied fruit.

**1.3 Glazed Fruit/ Vegetable/Rhizome / Fruit Peel** means the product prepared from candied product by coating it with a thin

transparent layer of heavy syrup with or without pectin which has dried to a more or less firm texture on the product.

2. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. It shall meet the following requirements:-

(i)	The percentage of total sugar (w/w)	Not less than 70.0
(ii)	Percentage of reducing Sugar to total sugar	Not less than 25.0

### **Regulation 5.3.26 Mango Chutney:**

1. **Mango Chutney** means the product prepared from washed clean sound mango (*Mangifera indica* L.) of any suitable variety, which have been peeled, sliced or chopped or shredded or comminuted and cooked with nutritive sweeteners. It may contain Salt, Spices, Condiments and any other ingredient suitable to the product and preserved by thermal processing/ or other means.

2. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. It shall meet the following requirements:-

(i)	Total Soluble solids (m/m)	Not less than 50.0 percent
(ii)	Fruit content (m/m)	Not less than 40.0 percent
(iii)	pH	Not more than 4.6
(iv)	Total ash	Not more than 5.0 percent
(v)	Ash insoluble in hydrochloric acid	Not more than 0.5 percent

3. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

### **Regulation 5.3.27 Tomato Ketchup and Tomato Sauce:**

1. **Tomato Ketchup and Tomato Sauce** means the product prepared by blending tomato juice/Puree/Paste of appropriate concentration with nutritive sweeteners, salt, vinegar, spices and condiments and any other ingredients suitable to the product and heating to the required consistency. Tomato Paste may be used after dilution with water suitable

for the purpose of maintaining the essential composition of the product.

2. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. It shall meet the following requirements:-

(i)	Total Soluble solids (m/m) Salt free basis	Not less than 25.0 percent
(ii)	Acidity as acetic acid	Not less than 1.0 percent

3. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

### **Regulation 5.3.28 Culinary Pastes / Fruits and Vegetable Sauces Other Than Tomato Sauce and Soya Sauce**

**1. Culinary Pastes / Fruits and Vegetable Sauces Other Than Tomato Sauce and Soya Sauce** means a culinary preparation used as an adjunct to food, prepared from edible portion of any suitable fruit/vegetable including, roots, tubers & rhizomes, their pulps/purees, dried fruits, singly or in combination by blending with nutritive sweeteners, salt, spices and condiments and other ingredient appropriate to the product.

2. The product may contain food additives permitted in **Appendix A**. It may contain caramel but shall not contain any other added colour whether natural or synthetic. The product shall conform to the microbiological requirements given in **Appendix B**. It shall meet the following requirements:-

<b>Name of the Product</b>	<b>Total Soluble Solids (Salt free basis) (m/m)</b>	<b>Acidity % (as acetic acid)</b>
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(i) Chilli Sauce	Not less than 8.0 percent	Not less than 1.0 percent
(2) Fruits / Vegetable Sauces	Not less than 15.0 percent	Not less than 1.2 percent
(3) Culinary Paste/ Sauce	Not less than 8.0 percent	Not less than 1.0 percent
(4) Ginger Paste	Not less than 3.0 percent	Not less than 1.0 percent

3. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

**Regulation 5.3.29 Soyabean Sauce:**

**1. Soyabean Sauce** means the product obtained from wholesome soyabeans, by fermenting the soyabean paste in which trypsin inhibitors have been inactivated & blending with salt, nutritive sweeteners. It may contain spices and condiments and other ingredients appropriate to the product preserved by using permitted preservative.

2. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. It shall meet the following requirements:-

(i)	Total Soluble solids (m/m) Salt free basis	Not less than 25.0 percent
(ii)	Acidity as ascetic acid	Not less than 0.6 percents

3. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

**Regulation 5.3.30 Carbonated Fruit Beverages or Fruit Drink:**

**1. Carbonated Fruit Beverages or Fruit Drink** means any beverage or drink which is purported to be prepared from fruit juice and water 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.

2. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. It shall meet the following requirements:-

(i) Total Soluble solids (m/m)	Not less than 10.0 percent
(ii) Fruit content (m/m)	
(a) Lime or Lemon juice	Not less than 5.0 percent
(b) Other fruits	Not less than 10.0 percent

3. The product shall have the colour, taste & flavour characteristic of the product & shall be free from extraneous matter.

4. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

**Regulation 5.3.31: Jam**

**1. Jam** means the product prepared from sound, ripe, fresh, dehydrated, frozen or previously packed fruits including fruit juices, fruit pulp, fruit juice concentrate or dry fruit by boiling its pieces or pulp or puree with nutritive sweeteners namely sugar, dextrose, invert sugar or liquid glucose to a suitable consistency. It may also contain fruit pieces and any other ingredients suitable to the products. It may be prepared from any of the suitable fruits, singly or in combination. It shall have the flavour of the original fruit(s) and shall be free from burnt or objectionable flavours and crystallization.

2. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. It shall meet the following requirement:-

Total soluble solids (m/m)      Not less than 65.0 percent

3. The product shall be manufactured from not less than 45 percent, by weight, of original prepared, fruit, exclusive of any added sugar or optional ingredients of finished product except where fruit is strawberry or raspberry where it shall contain not less than 25 percent fruit.

### **Regulation 5.3.32 Fruit Jelly:**

**1. Fruit Jelly** means the product prepared by boiling fruit juice or fruit (s) of sound quality, with or without water, expressing and straining the juice, adding nutritive sweeteners, and concentrating to such a consistency that gelatinisation takes place on cooling. The product shall not be syrupy, sticky or gummy and shall be clear, sparkling and transparent.

2. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. It shall meet the following requirements:-

Total soluble solids (m/m)      Not less than 65.0 percent

3. The product shall be manufactured from not less than 45 percent, by weight, of original prepared fruit, exclusive of any added sugar or optional ingredients of finished product.

### **Regulation 5.3.33 Fruit Cheese:**

**1. Fruit Cheese** means the product prepared from pulp/puree of sound, ripe fruit (s), whether fresh, frozen or previously preserved or dry fruits, by cooking with salt, nutritive sweeteners to attain a thick consistency so that it sets on cooling. Cheese shall be neither too soft nor too hard to chew. It may be prepared from any of the suitable fruits, singly or in combination. It shall have the flavour of the original fruit(s) and shall be free from burnt or objectionable flavours and crystallization.

2. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. It shall meet the following requirement:-

Total soluble solids (m/m)      Not less than 65.0 percent

3. The product shall be manufactured from not less than 45 percent by

weight, of original prepared fruit, exclusive of any added sugar or optional ingredients of finished product except where fruit is strawberry or raspberry where it shall contain not less than 25 percent fruit.

**Regulation 5.3.34 Marmalades:**

**1. Marmalades** means a product prepared by boiling sound fruits with peel, pulp and Juice, with or without water, added nutritive sweeteners and concentrating to such a consistency that gelatinisation takes place on cooling of the product. It shall not be syrupy, sticky or gummy and shall be clear and transparent.

2. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. It shall meet the following requirements:-

(i)	Total soluble solids (m/m)	Not less than 65.0 percent
(ii)	Fruit content except peel (m/m)	Not less than 45.0 percent
(iii)	Peel in suspension	Not less than 5.0 percent

3. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20 degree C which the sealed container is capable of holding when completely filled.

**Regulation 5.3.35 Dehydrated Fruits:**

**1. Dehydrated Fruits** means the product, prepared from edible part of suitable variety of sound fruit, free from blemishes, insect or fungal infection, of appropriate maturity, from which, moisture has been removed, under controlled conditions of temperature, humidity and airflow, to the extent that the product is preserved.

2. It may be whole, sliced, quarters, pieces or powdered. The finished product shall have uniform colour and shall be free from extraneous matter. The product shall have moisture content not more than 20 percent m/m. When in powder form, it shall be free flowing and free from agglomerates.



3. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**.

**Regulation 5.3.36 Dehydrated Vegetables:**

**1. Dehydrated Vegetables** means the product, prepared from edible portions of suitable variety of sound vegetable, free from insect or fungal infection, free from blemishes, suitably prepared, from which moisture has been removed under controlled conditions of temperature, humidity & airflow, to the extent that the product is preserved.

2. It may be whole, sliced, quarters, pieces, flakes, kibbled granules or powdered. The finished product shall have uniform colour and shall be free from 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.

3. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. It shall meet the requirements as given in the Table below

S.N.	Name of Vegetables	Moisture not more than (percent)	Sulphur Dioxide not more than (PPM)	Total Ash not more than (percent)	Ash insoluble dilute HCL not more than (percent)	Peroxidase Test
1.	Green Leafy Vegetable	7	2000ppm	–	–	Negative
2.	a) Tubers like Arvi b) Lotus–Roots Tapioca c) Yam d) Carrot e) Potato	7	2000 ppm	–	–	Negative
3.	Karela	6	–	–	–	Negative
4.	Cabbage	6	2000 ppm	–	–	Negative
5.	Okra	8	2000 ppm	–	–	Negative
6.	Other Vegetables	8	2000 ppm	5	0.5	Negative
7.	Powders of Union & Garlic	5	–	5	0.5	Negative
8.	Powders of other vegetables including tomatoes	5	2000 ppm	5	0.5	Negative

**Regulation 5.3.37 Frozen Fruits/Fruit Products:**

**1. Frozen Fruits/Fruit Products** means the product frozen in blocks

or individually quick frozen and offered for direct consumption, if required. Frozen Fruits/Fruit products are prepared from fresh, clean, sound, whole, fruits of suitable maturity, free from insect or fungal infection, which are washed, sufficiently blanched to inactivate enzymes, if required, and 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. It may be prepared in any style appropriate for the respective Fruits/Fruit product in normal culinary preparation. It may contain salt, nutritive sweeteners, milk solids, spices and condiments and any other ingredient suitable to the product.

2. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**.

#### **Regulation 5.3.38 Frozen Vegetables:**

**1. Frozen Vegetables** means the product frozen in blocks or individually quick frozen and offered for direct consumption, if required. Frozen vegetables are prepared from sound, clean vegetables of suitable maturity, free from insect or fungal infection, which are washed, sufficiently blanched to inactivate enzymes and 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. It may be prepared in any style appropriate for the respective vegetable in normal culinary preparation. It may contain salt, nutritive sweeteners, milk solids, spices and condiments and any other ingredient suitable to the product.

2. It shall have normal colour characteristic of the individual Vegetable. It shall have taste & flavour characteristic of the kind & variety of the vegetable used & shall be free from sand, grit & other foreign matter.

3. The product shall test negative for peroxidase. The product shall conform to the microbiological requirements given in **Appendix B**.

#### **Regulation 5.3.39 Frozen Curried Vegetables/Ready-to-Eat**

## **Vegetables:**

**1. Frozen Curried Vegetables/Ready-to-Eat Vegetables** means the product prepared from Fresh, Dehydrated or Frozen or previously processed vegetables, legumes, cereals or pulses, whether whole or cut into pieces. Vegetable(s) either singly or in combination may be prepared in any suitable style applicable for the respective vegetables in normal culinary preparation. It may contain salt, nutritive sweeteners, spices and condiments, edible vegetable oils and fats and milk fat and any other ingredients suitable to the product and subjected to freezing process in appropriate equipments. Freezing operation shall not be regarded as complete unless and until the product temperature has reached (minus) - 18°C at the thermal center after thermal sterilization.

2. The product shall conform to the microbiological requirements given in **Appendix B**.

## **Regulation 5.3.40 Fruit Based Beverage Mix/Powdered Fruit Based Beverage:**

**1. Fruit Based Beverage Mix/Powdered Fruit Based Beverage** means a product, in powder form, intended for use after dilution, obtained by blending fruit solids with nutritive sweeteners and other ingredients appropriate to the product & packed in hermetically sealed containers to prevent spoilage. It shall have colour & flavour characteristic of the named fruit. It may contain Vitamins and Minerals.

2. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. It shall meet the following requirements:-

(i)	Moisture (m/m)	Not more than 5.0 percent
(ii)	Fruit juice content (m/m) when reconstituted by dilution according to direction for use	Not less than 5.0 percent

### **Regulation 5.3.41 Fruits and Vegetable Chutney:**

**1. Fruits and Vegetable Chutney** means the product prepared from washed, clean, sound raw fruit(s) and / or vegetable(s) of any suitable variety, which have been peeled, sliced or chopped or shredded or comminuted and cooked with nutritive sweetener. It may contain salt, spices and condiments and any other ingredients suitable to the product and preserved by thermal processing or other means.

2. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. It shall meet the following requirements:-

(i)	Total soluble solids (m/m)	
	(a) Fruit Chutney	Not less than 50.0 percent
	(b) Vegetable Chutney	Not less than 25.0 percent
	(c) Hot and Sour (Spicy Chutney)	Not less than 25.0 percent
(ii)	Fruits and Vegetable content (m/m)	Not less than 40.0 percent
(iii)	pH	Not more than 4.6
(iv)	Total ash (m/m)	Not more than 5.0 percent
(v)	Ash insoluble in hydrochloric acid (m/m)	Not more than 0.5 percent

3. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled. This requirement shall not be applicable for bulk packs for industrial use.

### **Regulation 5.3.42 Pickles:**

**1. Pickles** means the preparation made from fruits or vegetables or other edible plant material including mushrooms free from insect damage or fungal infection, singly or in combination preserved in salt, acid, sugar or any combination of the three. The pickle may contain onion, garlic, ginger, sugar jaggery, edible vegetable oil, green or red chillies, spices,

spice extracts/oil, limejuice, vinegar/ acetic acid, citric acid, dry fruits and nuts. It shall be free from copper, mineral acid, alum, synthetic colours and shall show no sign of fermentation.

2. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. Pickles may be of combinations as given below:-

(i) **Pickles in Citrus juice or Brine conforming to the following requirements:-**

(a)	Drained Weight	Not less than 60.0 percent
(b)	Sodium Chloride content when packed in Brine	Not less than 12.0 percent
(c)	Acidity as Citric Acid when packed In Citrus Juice	Not less than 1.2 percent

(ii) **Pickles in Oil**

(a)	Drained Weight	Not less than 60.0 percent
(b)	Fruit and Vegetable pieces shall be practically remaining submerged in oil	

(iii) **Pickles in Vinegar**

(a)	Drained Weight	Not less than 60.0 percent
(b)	Acidity of vinegar as acetic acid	Not less than 2.0 percent

(iv) **Pickle without medium** means the pickles other than enumerated above. This may contain ingredients given in Para 1 of this specification. Such pickles shall be labelled as "(give name of vegetable or fruits) Pickle".

**Regulation 5.3.43 Table Olives:**

**1. Table Olives** means the product obtained from sound clean fruits of proper maturity from Olive tree (*Olea europaea sativa* Hoff of link) and suitably processed and preserved by natural fermentation / thermal processing or by addition of preservative. The product may be in the form of green olives, olives turning colour before complete ripeness or black

olives and may be whole, stoned (pitted) stuffed, halved, quartered, sliced, chopped, minced or in broken form. The product may contain water, common salt, vinegar, olive oil, nutritive sweeteners and stuffing material pimiento, onion, almond, celery, anchovy, olive, orange or lemon peel, hazelnut capers etc singly or in combination or in the form of a paste, spices, spice extracts and aromatic herbs. The product shall be of uniform colour except seasoned olives and olives turning colour free from any foreign matter, off flavour and taste and abnormal fermentation. The product may contain food additive permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. It shall conform to the following requirements:-

<b>Product in brine</b>	<b>Sodium Chloride in brine</b>	<b>PH of brine</b>	<b>Acidity of brine as lactic acid</b>
(A) Green olives treated /untreated	-	-	-
(i) in hermetically sealed containers	Not less than 5.0 percent	Not more than 4.0	-
(ii) in non hermetically sealed containers	Not less than 6.0 percent	Not more than 4.5	-
(iii) with natural lactic fermentation	-	-	Not less than 0.4 Percent
(B) Seasoned green olives	-	-	-
(i) in hermetically sealed containers	Not less than 4.0 percent	Not more than 4.0	-
(ii) in non hermetically sealed containers	Not less than 6.0 percent	Not more than 4.5	-
(C) Olives turning colour – all Treatments	Not less than 6.0 percent	-	-
(D) Black Olives			
(i) In brine	Not less than 7.0 percent	-	-
(ii) in dry salt	Not less than 10.0 percent	-	-

(E) Damaged matter		Not more than 2.0 percent by count
(F) Insect damaged Units		Not more than 2.0 percent by count
(G) Foreign matter		Not more than 1 unit/Kg

**Explanations:- For the purpose of this paragraph,-**

**'Damage Units'** mean 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.

**Regulation 5.3.44 Grated Desiccated Coconut:**

**1. Grated Desiccated Coconut** means the product obtained by peeling, milling and drying the kernel of coconut (cocos nucifera). The product may be in the form of thin flakes, chips or shreds. The product shall be white in colour free from foreign matter, living insects, mould, dead insects, insect fragments and rodent contamination. The product shall have pleasant taste and flavour, free from rancidity and evidence of fermentation. The product may contain food additives permitted in **Appendix A**. The products shall conform to the microbiological requirements given in **Appendix B**. The product shall conform to the following requirements:-

(i)	Extraneous Vegetable matter	Not more than 15 units/100 gm
(ii)	Moisture (m/m)	Not more than 3.0 percent
(iii)	Total Ash (m/m)	Not more than 2.5 percent
(iv)	Oil Content (m/m)	Not less than 55.0 percent
(v)	Acidity of extracted fat pressed as Lauric Acid (m/m)	Not more than 0.3 percent
(vi)	Sulphur Dioxide	Not more than 50.0 mg/kg

**Explanation:-** For the purpose of this paragraph Extraneous vegetable matter means fragments of shell, fibre, peel and burnt

particles.

**Regulation 5.3.45 VINEGAR:**

**1. Brewed Vinegar** means a product obtained by alcoholic and acetic acid fermentation of any suitable medium such as fruits, malt (brewed exclusively from malted barley or other cereals), molasses, Jaggary, Sugar Cane juice etc. with or without addition of caramel and spices. It shall not be fortified with acetic acid.

a) The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. It shall meet the following requirements:-

(i) Acidity (m/v)	Not less Than 3.75 percent Calculated as acetic Acid
(ii) Total Solids (m/v)	Not less than 1.5 percent
(iii) Total ash content	Not less than 0.18 percent
(iv) It shall not contain sulphuric acid or any other mineral acid. It shall be free from any foreign substances or colouring matter except caramel.	

b) The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

**2. Synthetic Vinegar** means the product prepared from acetic acid with or without caramel & spices and shall conform to the following requirements:

- (i) Acidity of the product shall not be less than 3.75 percent m/v.
- (ii) It shall not contain sulphuric acid or any other mineral acid. It shall be free from any foreign substance or colouring matter except caramel.

2. Synthetic vinegar shall be distinctly labelled as

SYNTHETIC - PREPARED FROM ACETIC ACID.
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3. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20°C which the sealed container is capable of holding when completely filled.

**Regulation 5.3.46 NUTS & RAISINS:**

**1. GROUNDNUT KERNEL (deshelled)** for direct human consumption commonly known as Moongphali are obtained from the plant *Arachis hypogols*. The kernels shall be free from non-edible seeds such as mahua, castor, neem or argemone etc.

It shall be free from colouring matter and preservatives. It shall be practically free from extraneous matter, such as stones, dirt, clay etc. The kernels shall conform to the following standards, namely:-

Moisture	Not more than 7.0 per cent	
Damaged kernel including damaged kernel	Not more than 5.0 per cent by weight.	slightly
Aflatoxin content	Not more than 30 parts per	billion.

**2. Raisins** means the product obtained by drying sound, clean grapes of proper maturity belonging to *Vitis vinifera* L. The product may be washed, with or without seeds and stems and may be bleached with Sulphur Dioxide. The product shall be free from foreign matter, living insects, mould, dead insects, insect fragments and rodent contamination. The product shall have uniform colour, pleasant taste and flavour, free from odour and taste and evidence of fermentation. The product shall be free from added colouring matter. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. The product shall conform to the following requirements:-

(i)	Moisture (m/m)	Not more than 15.0 percent
(ii)	Damaged Raisins (m/m)	Not more than 2.0 percent
(iii)	Sugared Raisins (m/m)	Not more than 15.0 percent

**Explanation.-** for the purpose of this paragraph,-

(i) '**Damaged Raisins**' means raisins affected by sunburn, scars,

mechanical injury which seriously affects the appearance, edibility and keeping quality;

- (ii) '**Sugared Raisins**' means raisins with external or internal sugar crystals which are readily apparent and seriously affect the appearance of the raisins.

**3. Pistachio Nuts** means the product obtained from mature seeds of Pistacia vera L which have been sun dried and their shells opened naturally or mechanically. The product may be raw, roasted, salted and/or lime juice treated. The product shall be free from foreign matter, living insects, mould, dead insects, insect fragments and rodent contamination. The product shall have pleasant taste and flavour, free from odour and taste, mustiness and rancidity. The product shall be free from food additives. The product shall conform to the microbiological requirements given in **Appendix B**. The product shall conform to the following requirements:-

(i)	Moisture (m/m)	Not more than 7.0 percent
(ii)	Unopened Shells (m/m)	Not more than 2.0 percent
(iii)	Empty Shells (m/m)	Not more than 1.0 percent

**Explanation.**-for the purpose of this paragraph,-

- (i) '**Unopened Shells**' means shells which are not split open but contain a fully developed kernel;
- (ii) '**Empty Shells**' means shells in which kernel is not developed;
- (iii) '**Mouldy Shells**' means nuts affected by mould.

**4. Dates** means the product obtained by drying sound, clean fruits of proper maturity belonging to Phoenix dactylifera. The product may be washed, pitted or unpitted, with or without cap, pressed or loose. The product may be treated with sugar, glucose syrup, flour and vegetable oil. The product shall be free from foreign matter, living insects, mould, dead insects, insect fragments and rodent contamination. The product shall have pleasant taste and smell, free from odour and evidence of fermentation. The product shall be free from any added colouring matter. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirements given in **Appendix B**. The product shall conform to the following requirements:-

(i) Moisture (m/m)	Not more than 30.0 percent
(ii) Ash insoluble in dil Hcl	Not more than 0.1 percent
(iii) Blemished / Damaged Units	Not more than 5.0 percent
(ii) (iv) Extraneous matter	Not more than 1.0 percent

**Explanation:** - For the purpose of this paragraph -

- (i) '**Blemished**' means units showing scars, discoloration, sun burn, dark spots on the surface;
- (ii) '**Damaged**' means dates affected by mashing and/ or tearing of the flesh exposing the pit or significantly changing the appearance.
- (iii) '**Extraneous vegetable matter**' means stalks, pieces of shells, pits, fibre, peel, etc.

**5. Dry Fruits and Nuts** means the products obtained by drying sound, clean fruits and nuts of proper maturity. The product may be with or without stalks, shelled or unshelled, pitted or unpitted or pressed into blocks. The product shall be free from mould, living / dead insects, insect fragments and rodent contamination. The product shall be uniform in colour with a pleasant taste and flavour characteristic of the fruit/ nut free from off flavour, mustiness, rancidity and evidence of fermentation. The product shall be free from added colouring. The product shall conform to the following requirements:-

(i)	Extraneous Vegetable matter (m/m)	Not more than 1.0 percent
(ii)	Damaged/ Discoloured units (m/m)	Not more than 2.0 percent
(iii)	Acidity of extracted fat expressed as oleic Acid	Not more than 1.25 percent

**Explanation** - For the purpose of this paragraph -

- (i) '**Extraneous vegetable matter**' means stalks, pieces of shells, pits, fibre, peel;
- (ii) '**Damaged or Discoloured**' means units affected by sunburn, scars mechanical injury, discolouration and insects.

**Regulation 5.3.47 BEAN:** means dry kidney shaped or flattened seeds of the leguminous varieties used as food, either whole or prepared as dal. It shall not contain hydrocyanic acid exceeding 20 parts per million as

determined by A.O. A.C. Maceration method.

## **PART 5.4 CEREALS & CEREAL PRODUCTS**

### **Regulation 5.4.1 ATTA**

**1. ATTA OR RESULTANT ATTA** means the coarse product obtained by milling or grinding clean wheat free from rodent hair and excreta It shall conform to the following standards:-

Moisture	Not more than 14.0 per cent (when determined by heating at 130-133°C for 2 hours).
Total ash	Not more than 2.0 per cent (on dry weight basis).
Ash insoluble in	Not more than 0.15 per dilute HCL cent (on dry weight basis).
Gluten	Not less than 6.0 per cent (on dry weight basis).
Alcoholic acidity with 90 per cent alcohol expressed as H <sub>2</sub> SO <sub>4</sub>	Not more than 0.18 per cent (on dry weight basis).

It shall be free from rodent hair and excreta

**2. FORTIFIED ATTA** means the product obtained by adding one or more of the following materials to atta, namely:-

- (a) Calcium carbonate (prepared chalk, popularly known as Creta preparata).
- (b) Iron
- (c) Thiamine
- (d) Riboflavin, and
- (e) Niacin.

The calcium carbonate powder, if added for fortification shall be in such amount that 100 parts by weight of fortified atta shall contain not less than 0.30 and not more than 0.35 parts by weight of calcium

carbonate. It shall be free from Rodent hair and excreta

3. **PROTEIN RICH (Paushtik) Atta** means the product obtained by mixing wheat atta with groundnut "or Soya flour", or a combination of both". flour up to an extent of 10.0 per cent. Soya flour which is a solvent extracted soya flour used in such mix shall conform to the standards of Soya flour laid down under Article 1 of 5.4.13. It shall be free from insect or fungus infestation, odour and rancid taste. It shall not contain added flavouring and colouring agents or any other extraneous matter. It shall conform to the following standards:-

Moisture Not more than 14.0 percent on dry basis.

Total ash Not more than 2.75 percent on dry basis.

Ash insoluble in Not more than 0.1 per cent on dilute HCl dry basis.

Total protein (Nx Not less than 12.5 per cent on 6.25) dry basis.

Crude fibre Not more than 2.5 per cent on dry basis.

Alcoholic acidity Not more than 0.12 per cent  
(with 90 per cent on dry basis  
Alcohol)  
expressed as H<sub>2</sub>SO<sub>4</sub>

It shall be free from Rodent hair and excreta

#### **Regulation 5.4.2 MAIDA:**

1. **MAIDA** means the fine product made by milling or grinding clean wheat free from rodent hair and excreta and bolting or dressing the resulting wheat meal. It shall conform to the following standards:-

Moisture Not more than 14.0 percent (when determined by heating at 130-133°C for 2 hours).

Total ash Not more than 1.0 per cent. (on dry weight basis)

Ash insoluble in dilute HCl	Not more than 0.1 per cent. (on dry weight basis)
Gluten	Not less than 7.5 per cent. (on dry weight Basis)
Alcoholic acidity (with 90 per cent Alcohol) expressed as H <sub>2</sub> SO <sub>4</sub>	Not more than 0.12 per cent. (On dry weight basis)

It shall be free from Rodent hair and excreta.

If the product is to be used for bakery purpose, the following flour treatment agents in the quantities mentioned against each may be used, namely:-

Benzoyl peroxide (Max)	40 p.p.m.
Potassium bromate (Max)	20 p.p.m.
Ascorbic acid (Max)	200 p.p.m.

**2. FORTIFIED MAIDA** means the product obtained by adding one or more of the following materials to maida, namely:-

- (a) Calcium carbonate (preparated chalk popularly known as creta preparata).
- (b) Iron,
- (c) Thiamine,
- (d) Riboflavin, and
- (e) Niacin.

The calcium carbonate powder, if added for fortification, shall be in such amount that 100 parts by weight of fortified maida shall contain not less than 0.30 and not more than 0.35 parts by weight of calcium carbonate. It shall be free from Rodent hair and excreta.

**3. PROTEIN RICH (Paushtik) MAIDA** means the product obtained by mixing maida (wheat flour) with groundnut flour "or Soya flour; or a combination of both" up to an extent of 10.0 per cent Soya flour which is a solvent extracted flour used in such mix shall conform to the standards of soya flour laid down under **Article 1 of 5.4.13**. It shall be free from insect or fungus infestation, odour and rancid taste. It shall not contain added flavour and colouring agents or any other extraneous matter. It shall conform to the following standards:

Moisture	Not more than 14.0 per cent.
Total ash	Not more than 1.0 per cent on dry basis.
Ash insoluble in dilute HCl	Not more than 0.1 per cent on dry basis.
Total protein (N x dry basis.	Not less than 12.5 per cent on 6.25)
Crude fibre	Not more than 0.53 per cent on dry basis.
Alcoholic acidity (with 90 per cent Alcohol) expressed as H <sub>2</sub> SO <sub>4</sub>	Not more than 0.12 per cent.
Gluten	Not less than 7.0 per cent on dry basis.

It shall be free from Rodent hair and excreta

#### **Regulation 5.4.3 SEMOLINA (Suji or Rawa):**

**1. SEMOLINA (Suji or Rawa)** means the product prepared from clean wheat free from rodent hair and excreta by process of grinding and bolting. It shall be free from musty smell and off-odour and shall be creamy yellow in colour. It shall conform to the following standards:-

Moisture	Not more than 14.0% (with determined by heating at 130-133°C for 2 hours).
Total ash	Not more than 1.0 percent (on dry weight basis).
Ash insoluble in dilute HCl	Not more than 0.1 per cent. (on dry weight basis)
Gluten	Not less than 6.0 percent (on dry weight basis)

Alcoholic acidity (with 90 percent Alcohol) expressed as H<sub>2</sub>SO<sub>4</sub>      Not more than 0.18 percent (On dry weight basis)

It shall be free from Rodent hair and excreta

#### **Regulation 5.4.4 BESAN:**

**1. BESAN** means the product obtained by grinding dehusked Bengal gram (*Cicer arietinum*) and shall not contain any added colouring matter or any other foreign ingredient.

Besan shall conform to the following standards:-

Total ash                                      Not more than 5.0%.

Ash insoluble in dilute hydrochloric acid      Not more than 0.5%.

#### **Regulation 5.4.5 Pearl Barley (Jau)**

**1. Pearl Barley (Jau)** shall be the product obtained from sound and clean barley (*Horbeum vulgare* or *hordeum distichon*). It shall be whitish in colour and shall be free from fermented, musty or other objectionable taste or odour, adulterants and insect and fungus infestation and rodent contamination. It shall not contain other foodgrains more than 1 per cent by weight.

Barley powder shall be the product obtained by grinding clean and sound dehusked barley (*Hordeum vulgare* or *Hordeum distichon*) grains. Barley starches shall not be less than 98.0 per cent by weight.

Barley powder shall also conform to the following standards namely:-

Total ash (on dry basis)	Not more than 1.0%.
Ash insoluble in dilute hydrochloric acid (on dry basis)	Not more than 0.1%.
Crude fibre (on dry basis)	Not more than 0.5%.



Alcoholic acidity (as H <sub>2</sub> SO <sub>4</sub> ) with 90 per cent alcohol)	Not more than 0.10 per cent.
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**2. WHOLEMEAL BARLEY POWDER OR BARLEY FLOUR OR CHOKER Yukt Jau ka Churan** means the product obtained by grinding clean and sound dehusked barley (Hordeum vulgare or Hordeum distichun) grains free from rodent hair and excreta]. It shall conform to the following standards:-

Moisture	Not more than 14.0% (when determined by heating at 130-133°C for 2 hours).
Total ash	Not more than 3.0 percent. (on dry weight basis)
Ash insoluble in dilute HCl	Not more than 0.5 per cent. (on dry weight basis)
Alcoholic acidity (with 90 percent Alcohol) expressed as H <sub>2</sub> SO <sub>4</sub>	Not more than 0.17 percent (On dry weight basis)

#### **Regulation 5.4.6 Food grains:**

**1. Food grains meant for human consumption** shall be whole or broken kernels of cereals, millets and pulses. In addition to the undermentioned standards to which foodgrains shall conform, they shall be free from Argemone, Maxicana and Kesari in any form. They shall be free from added colouring matter. The foodgrains shall not contain any insecticide residues other than those specified in **Regulation 8.3.1** and the amount of insecticide residue in the foodgrains shall not exceed the limits specified in **Regulation 8.3.1** of the said Table. The foodgrains meant for grinding/processing shall be clean, free from all impurities including foreign matter (extraneous matter).

#### **2. WHEAT**

Description: Wheat shall be the dried mature grains of Triticum aestivum Linn. or Triticum vulgare vill, triticum drum Desf., triticum sphaerococcum perc., Triticum dicoccum schubl., Triticum Compactum Host. It shall be sweet, clean and wholesome. It shall also conform to the

following standards namely:-

(i)	Moisture-	Not more than 14 per cent by weight (obtained by heating the pulverised grains at 130°C-133°C for two hours).
(ii)	Foreign matter - (Extraneous matter)	Not more than 1 per cent. by weight of which not more than 0.25 per cent. By weight shall be mineral matter and not more than 0.10 per cent. by weight shall be impurities of animal origin.
(iii)	Other edible grains	Not more than 6 per cent by weight.
(iv)	Damaged grains-	Not more than 6.0 per cent by weight including kernel bunt affected grains and got affected grains. The limit of kernel bunt affected grains ergot affected grains shall not exceed 3.0 per cent and 0.05 per cent by weight, respectively.
(v)	Weevilled grains-	Not more than 10 per cent by count.
(vi)	Uric acid-	Not more than 100 mg. per kg.
(vii)	Aflatoxin	Not more than 30 micrograms per kilogram
(viii)	Deoxynivalent(DON)	Not more than 1000 micrograms per kilogram

Provided that the total of foreign matter, other edible grains and damaged grains shall not exceed 12 per cent by weight.

### 3. MAIZE:

Maize shall be the dried mature grains of *Zea mays* Linn. It shall be sweet, hard, clean and wholesome. It shall also conform to the following standards, namely:-

(i)	Moisture-	Not more than 16.0 per cent by weight (obtained by heating the pulverised grains at 130°C-133°C for two hours).
(ii)	Foreign matter - (Extraneous matter)	Not more than 1 per cent. by weight of which not more than 0.25 per cent. by weight shall be mineral matter and not more than 0.10 per cent. by weight shall be impurities of animal origin.
(iii)	Other edible grains -	Not more than 3 per cent by weight.

(iv)	Damaged grains-	Not more than 5 per cent by weight.
(v)	Weevilled grains-	Not more than 10 per cent by count.
(vi)	Uric acid-	Not more than 100 mg. per kg.
(vii)	Mycotoxin including aflatoxin -	Not more than 30 micrograms per kilogram.

Provided that the total of foreign matter, other edible grains and damaged grains shall not exceed 9 per cent by weight.

#### 4. JAWAR AND BAJRA:

Jawar and Bajra shall be the dried mature grains of Sorghum Vulgare Pers. and

Pennisetum - typhoideum Rich, respectively. These shall be sweet, hard, clean and wholesome. These shall also conform to the following standards, namely:-

(i) Moisture-	Not more than 16.0 per cent by weight (obtained by heating the pulverised grains at 130°C-133°C for two hours).
(ii) Foreign matter - Extraneous Matter	Not more than 1 per cent. by weight of which not more than 0.25 per cent. by weight shall be mineral matter and not more than 0.10 per cent by weight shall be impurities of animal origin.
(iii) Other edible grains	Not more than 3 per cent by weight.
(iv) Damaged grains	Not more than 5 per cent by weight.
(v) Weevilled grains	Not more than 10 per cent by count.
(vi) Uric acid	Not more than 100 mg per kg
(vii) Mycotoxin including Aflatoxin	Not more than 30 micrograms per kilogram.

Provided that the total of foreign matter, other edible grains and damaged grains shall not exceed 10 per cent by weight.

#### 5. RICE:

Rice shall be the mature kernels or pieces of kernels of Oryza sativa Linn. obtained from paddy as raw or par boiled. It shall be dry, sweet, clean, wholesome and free from unwholesome poisonous substance. It shall also conform to the following standards, namely:-

(i)	Moisture-	Not more than 16 per cent by weight (obtained by heating the pulverised grains at 130°C-133°C for two hours).
(ii)	Foreign matter - (Extraneous matter)	Not more than 1 per cent. by weight of which not more than 0.25 per cent. By weight shall be mineral matter and not more than 0.10 per cent. by weight shall be impurities of animal origin.
(iii)	Damaged grains-	Not more than 5 per cent by weight
(iv)	Weevilled grains-	Not more than 10 per cent by count.
(v)	Uric acid-	Not more than 100 mg. per kg.
(vi)	Mycotoxin including aflatoxin	Not more than 30 micrograms per kilogram.

Provided that the total of foreign matter, and damaged grains shall not exceed 6 per cent by weight.

## 6. MASUR WHOLE:

Masur whole shall consist of lentil (*lens culinaris* Medik or *Even lens* Linn. or *Lens esculenta* Moench). It shall be sound, dry, sweet, clean and wholesome. It shall conform to the following standards, namely:-

(i)	Moisture-	Not more than 14 per cent by weight (obtained by heating the pulverized grains at 130°C 133°C for two hours).
(ii)	Foreign matter - (Extraneous matter)	Not more than 1 per cent. by weight of which not more than 0.25 per cent. by weight shall be mineral matter and not more than 0.10 per cent. by weight shall be impurities of animal origin
(iii)	Other edible grains-	Not more than 3 per cent by weight.
(iv)	Damaged grains-	Not more than 5 per cent by weight.
(v)	Weevilled grains-	Not more than 6 per cent by count.
(vi)	Uric acid-	Not more than 100 mg. per kg.
(vii)	Mycotoxin including aflatoxin	Not more than 30 micrograms per kilogram.

Provided that the total of foreign matter, other edible grains and

damaged grains shall not exceed 8 per cent by weight.

**7. URD WHOLE:**

Urd whole shall consist of seeds of the pulses (phaseolus mungo Linn). It shall be sound, dry, sweet and wholesome. It shall also conform to the following standards, namely:-

(i) Moisture-	Not more than 14.0 per cent by weight (obtained by heating the pulverised grains at 130°C-133°C for two hours).
(ii) Foreign matter - Extraneous Matter	Not more than 1 per cent. by weight of which not more than 0.25 per cent. by weight shall be mineral matter and not more than 0.10 per cent by weight shall be impurities of animal origin.
(iii) Other edible grains	Not more than 4 per cent by weight.
(iv) Damaged grains	Not more than 5 per cent by weight.
(v) Weevilled grains	Not more than 6 per cent by count.
(vi) Uric acid	Not more than 100 mg per kg
(vii) Mycotoxin including Aflatoxin	Not more than 30 micrograms per kilogram.

Provided that the total of foreign matter, other edible grains and damaged grains shall not exceed 9 per cent by weight.

**8. MOONG WHOLE:**

Moong whole shall consist of seeds of green gram (Phaseolous aurues Roxb., Phaseolus radiatus Roxb.) It shall be sound, dry, sweet, wholesome and free from admixture of unwholesome substances. It shall also conform to the following standards, namely:-

(i)	Moisture-	Not more than 14 per cent by weight (obtained by heating the pulverized grains at 130°C-133°C for two hours).
(ii)	Foreign matter - (Extraneous matter)	Not more than 1 per cent. by weight of which not more than 0.25 per cent. by weight shall be mineral matter and not more than 0.10 per cent. by weight shall be impurities of animal origin.
(iii)	Other edible grains -	Not more than 4 per cent by weight.
(iv)	Damaged grains-	Not more than 5 per cent by weight.

(v)	Weevilled grains-	Not more than 6 per cent by count.
(vi)	Uric acid-	Not more than 100 mg. per kg.
(vii)	Mycotoxin including aflatoxin	Not more than 30 micrograms per kilogram.

Provided that the total of foreign matter, other edible grains and damaged grains shall not exceed 9 per cent by weight.

### 9. CHANA WHOLE:

Channa whole shall be the dried grains of gram (*cicer arietinum* Linn.) It shall be sound, clean, sweet, wholesome and free from unwholesome substances. It shall also conform to the following standards, namely:-

(i)	Moisture-	Not more than 16 per cent by wight (obtained by heating the pulverised grains at 130°C-133°C for two hours).
(ii)	Foreign matter - (Extraneous matter)	Not more than 1 per cent. by weight of which not more than 0.25 per cent. by weight shall be mineral matter and not more than 0.10 per cent. by weight shall be impurities of animal origin.
(iii)	Other edible grains -	Not more than 4 per cent by weight.
(iv)	Damaged grains-	Not more than 5 per cent by weight.
(v)	Weevilled grains-	Not more than 10 per cent by count.
(vi)	Uric acid-	Not more than 100 mg. per kg.
(vii)	Mycotoxin including aflatoxin	Not more than 30 micrograms per kilogram.

Provided that the total of foreign matter, other edible grains and damaged grains shall not exceed 9 per cent by weight.

### 10. SPLIT PULSE (DAL) ARHAR:

Dal Arhar shall consist of husk and split seeds of red gram (*Cajanus cajan* (L) Millsp). It shall be sound, clean, sweet, dry, wholesome and free from admixture of unwholesome substance. It shall also conform to the following standards, namely:-

(i)	Moisture-	Not more than 14 per cent by weight (obtained by heating the pulverized grains at 130°C-133°C for two hours).
(ii)	Foreign matter - (Extraneous matter)	Not more than 1 per cent. by weight of which not more than 0.25 per cent. by weight shall be mineral matter and not more than 0.10 per cent. by weight shall be impurities of animal origin.
(iii)	Other edible grains -	Not more than 0.5 per cent by weight.
(iv)	Damaged grains-	Not more than 5 per cent by weight.
(v)	Weevilled grains-	Not more than 3 per cent by count.
(vi)	Uric acid-	Not more than 100 mg. per kg.
(vii)	Mycotoxin including aflatoxin	Not more than 30 micrograms per kilogram.

Provided that the total of foreign matter, other edible grains and damaged grains shall not exceed 6 per cent by weight.

#### **11. SPLIT PULSE (DAL) MOONG:**

Dal Moong shall consist of split seeds of green grams (*Phaseolus aureus* Roxb, *Phaseolus raditus*). It shall be sound, clean, sweet, wholesome and free from unwholesome. It shall also conform to the following standards, namely:-

(i)	Moisture-	Not more than 14 per cent by weight (obtained by heating the pulverized grains at 130°C-133°C for two hours).
(ii)	Foreign matter - (Extraneous matter)	Not more than 1 per cent. by weight of which not more than 0.25 per cent. by weight shall be mineral matter and not more than 0.10 per cent. By weight shall be impurities of animal origin.
(iii)	Other edible grains -	Not more than 4 per cent by weight.
(iv)	Damaged grains-	Not more than 5 per cent by weight.
(v)	Weevilled grains-	Not more than 3 per cent by count.
(vi)	Uric acid-	Not more than 100 mg. per kg.

(vii)	Mycotoxin including Aflatoxin	Not more than 30 micrograms per kilogram.
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Provided that the total of foreign matter, other edible grains and damaged grains shall not exceed 8 per cent by weight.

## 12. SPLIT PULSE (DAL) URD:

Dal Urd shall consist of split seeds of pulse (*Phaseolus mungo* Linn.) It shall be sound, dry, sweet, wholesome and free from admixture of unwholesome substances. It shall also conform to the following standards, namely:-

(i)	Moisture-	Not more than 14 per cent by weight (obtained by heating the pulverized grains at 130°C-133°C for two hours).
(ii)	Foreign matter - (Extraneous matter)	Not more than 1 per cent. by weight of which not more than 0.25 per cent. by weight shall be mineral matter and not more than 0.10 per cent. by weight shall be impurities of animal origin.
(iii)	Other edible grains -	Not more than 4 per cent by weight.
(iv)	Damaged grains-	Not more than 5 per cent by weight.
(v)	Weevilled grains-	Not more than 3 per cent by count.
(vi)	Uric acid-	Not more than 100 mg. per kg.
(vii)	Mycotoxin including aflatoxin	Not more than 30 micrograms per kilogram.

Provided that the total of foreign matter, other edible grains and damaged grains shall not exceed 8 per cent by weight.

## 13. DAL CHANA:

Dal Chana shall consist of split grains of gram (*Cicer arietinum* Linn). It shall be sound, clean, sweet, dry, wholesome and free from admixture of unwholesome substances. It shall also conform to the following standards, namely:-

(i)	Moisture-	Not more than 16 per cent by weight (obtained by heating the pulverized grains at 130°C-133°C for two hours).
(ii)	Foreign matter - (Extraneous matter)	Not more than 1 per cent. by weight of which not more than 0.25 per cent.



		by weight shall be mineral matter and not more than 0.10 per cent. by weight shall be impurities of animal origin.

(iii)	Other edible grains	Not more than 2 per cent by weight.
(iv)	Damaged grains-	Not more than 5 per cent by weight.
(v)	Weevilled grains-	Not more than 3 per cent by count.
(vi)	Uric acid-	Not more than 100 mg. per kg.
(vii)	Mycotoxin including aflatoxin	Not more than 30 micrograms per kilogram.

Provided that the total of foreign matter, other edible grains and damaged grains shall not exceed 7 per cent by weight.

#### **14. SPLIT PULSE MASUR:**

Dal masur shall consist of dehusked whole and split seed of the lentil (*Lenil esculenta* Moench or *Lens culinaris* Medik or *Ervem lens* Linn). It shall be sound, clean, dry, sweet, wholesome and free from admixture of unwholesome substances. It shall also conform to the following standards, namely:-

(i)	Moisture-	Not more than 14 per cent by weight (obtained by heating the pulverized grains at 130°C-133°C for two hours).
(ii)	Foreign matter - (Extraneous matter)	Not more than 1 per cent. by weight of which not more than 0.25 per cent. by weight shall be mineral matter and not more than 0.10 per cent. by weight shall be impurities of animal origin.
(iii)	Other edible grains -	Not more than 2 per cent by weight.
(iv)	Damaged grains-	Not more than 5 per cent by weight.
(v)	Weevilled grains-	Not more than 3 per cent by count.
(vi)	Uric acid-	Not more than 100 mg. per kg.
(vii)	Mycotoxin including aflatoxin	Not more than 30 micrograms per kilogram.

Provided that the total of foreign matter, other edible grains and damaged grains shall not exceed 7 per cent by weight.

**15. Any other foodgrains** not specified above shall conform to the following standards, namely:-

(i)	Moisture-	Not more than 16 per cent by weight (obtained by heating the pulverized grains at 130°C-133°C for two hours).
(ii)	Foreign matter - (Extraneous matter)	Not more than 1 per cent. by weight of which not more than 0.25 per cent. by weight shall be mineral matter and not more than 0.10 per cent. by weight shall be impurities of animal origin.
(iii)	Other edible grains	Not more than 6 per cent by weight.
(iv)	Weevilled grains-	Not more than 10 per cent by count.
(v)	Damaged grains-	Not more than 5 per cent by weight.
(vi)	Uric acid-	Not more than 100 mg. per kg.
(vii)	Mycotoxin including aflatoxin	Not more than 30 micrograms per kilogram.

Provided that total of foreign matter, other edible grains and damaged grains shall not exceed 12.0 per cent by weight.

Explanation - For the purposes of items in **Article 2-14 in Regulation 5.4.6:-**

- (a) "foreign matter" means any extraneous matter other than foodgrains comprising of-
  - (i) inorganic matter consisting or metallic pieces, sand, gravel, dirt, pebbles, stones, lumps of earth, clay and mud, animal filth and in the case of rice, kernels or pieces of kernels, if any, having mudsticking on the surface of the rice, and
  - (ii) organic matter consisting of husk, straws, weed seeds and other inedible grains and also paddy in the case of rice;
- (b) poisonous, toxic and/or harmful seeds - means any seeds which is present in quantities above permissible limit may have damaging or dangerous effect on health, organoleptic properties or technological performance such as dhatura (D. fastur linn and D. stramonium linn), corn cokle (Agrostemma githago L, Machai Lallium remulenum linn), Akra (Vicia species).
- (c) "Damaged grains" means kernels or pieces of kernels that are

sprouted or internally damaged as a result of heat, microbe, moisture or whether, viz., ergot affected grain and kernel bunt grains;

- (d) "Weevilled grains" means kernels that are partially or wholly bored by insects injurious to grains but does not include germ eaten grains and egg spotted grains;
- (e) "Other edible grains" means any edible grains (including oil seeds) other than the one which is under consideration.

#### **Regulation 5.4.7 CORNFLOUR (Maize starch):**

**1. CORNFLOUR (Maize starch)** means the starch obtained from maize (*zea mays* L.). It shall contain no added colour, flavours or other chemicals. It shall be free from dirt, insects, larvae and impurities or other extraneous matter. It shall conform to the following standards:-

Moisture	Not more than 12.5%
Total ash	Not more than 0.5% on dry basis.
Ash insoluble in dilute HCl	Not more than 0.1 per cent on dry basis
Alcoholic acidity 90 per cent alcohol)	Shall be equivalent to not more than 2.0 ml. N. NaOH per 100 g. of dried starch. (with

#### **Regulation 5.4.8. CORN FLAKES:**

**1. CORN FLAKES** means the product obtained from dehulled, degermed and cook corn (*Zea mays* L.) by flaking, partially drying and toasting. It shall be in the form of crisp flakes of reasonably uniform size and golden brown in colour. It shall be free from dirt, insects, larvae and impurities and any other extraneous matter. It shall conform to the following standards:-

Moisture	Not more than 7.5 per cent.
Total ash	Not more than 0.1 per cent on dry basis.
Ash insoluble in dilute HCl	Not more than 0.1 per cent on dry basis.

Alcoholic acidity (with per cent per 100 g. of dried substance. Shall be equivalent to not more than 2.0 ml. N. NaOH alcohol) 90

#### **Regulation 5.4.9 CUSTARD POWDER:**

**1. CUSTARD POWDER** means the product obtained from maize (*Zea mays* L.) or sago/topioca with or without the addition of small quantities of edible starches obtained from arrowroot, potato or jawar (*sorghum vulgare*) and with or without the addition of edible common salt, milk and albuminous matter. It may contain permitted colours and flavours. It shall be free from any other foreign matter. It shall be the form of fine powder, free from rancidity, fermented and musty odour. It shall conform to the following standards namely:-

Moisture Not more than 12.5%

Total ash excluding added common salt (on dry basis) Not more than 0.5 per cent.

Ash insoluble in dilute acid (on dry basis) . Not more than 0.1 percent hydrochloric acid

#### **Regulation 5.4.10 MACARONI PRODUCTS:**

**1. MACARONI PRODUCTS-(Macaroni, spaghetti, vermicelli)** means the products obtained from suji or maida with or without addition of ingredients like edible groundnut flour, tapioca flour, soya flour, milk powder, spices, vitamins, minerals, by kneading the dough and extending it. It shall be free from added colour, dirt, insects larvae and impurities or any other extraneous matter. It shall conform to the following standards:-

Moisture Not more than 12.5 per cent.

Total ash- Not more than 0.1 per cent on dry basis.

Ash insoluble in dilute - HCl Not more than 0.1 per cent on dry basis

Nitrogen- Not less than 1.7 per cent on dry basis.

#### **Regulation 5.4.11 MALTED & MALT BASED FOODS**

**1. MALTED MILK FOOD** means the product obtained by mixing whole milk, partly skimmed milk or milk powder with the wort separately from a mash of ground barley malt, any other malted cereal grain and wheat flour or any other cereal flour or malt extract with or without addition of flavouring agents and spices, emulsifying agents, eggs, protein isolates, edible common salt, sodium or potassium bicarbonate, minerals and vitamins and without added sugar in such a manner as to secure complete hydrolysis of starchy material and prepared in a powder or granule or flake form by roller drying, spray drying, vacuum drying or by any other process. It may contain cocoa powder. It shall be free from dirt and other extraneous matter. It shall not contain any added starch (except starch natural to cocoa powder) and added non-milk fat. It shall not contain any preservative or added colour. Malted milk food containing cocoa powder may contain added sugar. Malted milk food shall also conform to the following standards, namely:-

		<b><i>Malted milk food without cocoa powder</i></b>	<b><i>Malted milk food with cocoa powder</i></b>
(a)	Moisture	Not more than 5 per cent by weight.	Not more than 5 per cent by weight
(b)	Total protein (N x 6.25) (on dry basis)	Not less than 12.5 per cent by weight.	Not less than 11.25 per cent by weight.
(c)	Total fat (on Dry basis)	Not less than 7.5% by weight	Not less than 6% by weight.
(d)	Total ash (on dry basis)	Not more than 5% by weight	Not more than 5% by weight.
(e)	Acid insoluble ash (on dry basis) (in dilute HCl)	Not more than 0.1 per cent by weight	Not more than 0.1 per cent by weight
(f)	Solubility	Not less than 85% by weight.	Not less than 85% by weight.
(g)	Cocoa powder (on dry basis)	--	Not less than 5.0% by weight.
(h)	Test for starch	Negative	--
(i)	Bacterial count	Not more than 50,000 per gram.	Not more than 50,000 per gram.
(j)	Coliform count	Not more than	Not more than 10 per

		10 per gram.	gram.
(k)	Yeast and mould count		absent in 0.1 gm
(l)	Salmonella and Shigella		absent in 0.1 gm
(m)	E.Coli		absent in 0.1 gm
(n)	Vibrio cholera and V.Paraheamolyticus		absent in 0.1 gm
(o)	Faecal streptococci and Staphylococcus aureas		absent in 0.1 gm

**2. MALT BASED FOODS (MALT FOOD)** means the product obtained by mixing malt (wort or flour or malt extract) of any kind obtained by controlled germination of seeds (cereals and/or grain legumes), involving mainly steeping germination and kiln drying processes with other cereal and legume flour with or without whole milk or milk powder, flavouring agents, spices, emulsifying agents, eggs, egg powder, protein isolates, protein hydrolysates, edible common salt, liquid glucose, sodium or potassium bicarbonate minerals, amino acids and vitamins. It may contain added sugar and/or cocoa powder and processed in such a manner to secure partial or complete hydrolysis of starchy material in the form of powder or granules or flakes by drying or by dry mixing of the ingredients. The grains, legumes and their products used in preparation of malt shall be sound, uninfested and free from insect fragments, rat excreta, fungal infested grains or any other type of insect or fungal damage.

It shall also conform to the following standards, namely:—

(a)	Moisture	- Not more than 5 per cent, by weight
(b)	Total Protein (N x 6.25) (on dry basis)	- Not less than 7.0 per cent, by weight
(c)	Total ash (on dry basis)	- Not more than 5 per cent, by weight
(d)	Acid insoluble ash (in dilute HCL)	- Not more than 0.1 per cent, by weight
(e)	Total plate count	- Not more than 50,000 per gram.
(f)	Coliform count	- Not more than 10 per gram.
(g)	Yeast and Mould Count	- Not more than 100 per gram.

(h)	E Coli	- Absent in 10 gram.
(i)	Salmonella and Shingella	- Absent in 25 gram
(j)	Alcoholic Acidity (expressed as H <sub>2</sub> SO <sub>4</sub> ) with 90 per cent alcohol (on dry weight basis)	- Not more than 0.30 per cent.
(k)	Vibrio cholera and V.Paraheamolyticus	absent in 0.1 gm
(l).	Faecal streptococci and Staphylococcus aureas	absent in 0.1 gm

### Regulation 5.4.12 ROLLED OATS:

**1. ROLLED OATS (quick cooking oats)** means the product made from sound hulled oats (*Avena sativa*). It shall be free from added colours, rancidity and flavouring agents. It shall be in the form of thin flakes of uniform size having a light cream colour. It shall be free from dirt, insects and insect fragments. It shall conform to the following standards:-

Moisture                      Not more than 10.0 per cent.

Total ash-                      Not more than 2.0 per cent on dry basis.

Ash insoluble in      Not more than 0.1 per cent on dry                      dilute  
HCl                      basis.

Nitrogen-                      Not less than 1.8 per cent on dry basis.

Crude fibre                      Not more than 2.0 per cent on dry basis.

Alcoholic acidity                      Shall be equivalent to not  
(with 90 per cent                      more than 8.0 ml. N.NaOH per alcohol)  
100 gm. of dried substance.

### Regulation 5.4.13 SOLVENT EXTRACTED FLOURS:

**1. SOLVENT EXTRACT SOYA FLOUR** means the product obtained from clean, sound healthy soyabeans by a process of cracking, dehulling, solvent extraction with food grade hexane and grinding. It shall be in the form of coarse or fine powder or grits, white to creamy white in colour of

uniform composition and free from rancid and objectionable odour, extraneous matter, insects, fungus, rodent hair and excreta. It shall be free from any added colour and flavour. It shall conform to the following standards, namely:-

(a)	Moisture	Not more than 9.0 per cent by weight
(b)	Total ash	Not more than 7.2 per cent by weight on dry basis
(c)	Ash insoluble in dilute HCl	Not more than 0.4 per cent by weight on dry basis.
(d)	Protein (Nx6.25)	Not less than 48 per cent by weight on dry basis.
(e)	Crude fibre	Not more than 4.2 per cent by weight on dry basis.
(f)	Fat	Not more than 1.5 per cent by weight on dry basis

(g)	Total bacterial count	Not more than 50,000 per gm.
(h)	Coliform bacteria	Not more than 10 per gm.
(i)	Salmonella bacteria	Nil in 25 gm
(j)	Hexane (Food grade)	Not more than 10.00 ppm

**2. SOLVENT EXTRACTED GROUNDNUT FLOUR** means the product obtained from fresh, clean, degermed groundnut kernels which have been decuticled after mild roasting. The kernels shall be first expelled followed by solvent extraction with food grade hexane or by direct extraction of kernels. It shall be whitish to light brown in colour of uniform composition and shall be free from rancid and objectionable odour, extraneous matter, insect, fungus, rodent hair and excreta. It shall be free from added colour and flavour. It shall conform to the following standards namely :-

(a)	Moisture	Not more than 8.0 per cent by weight
(b)	Total ash	Not more than 5.0 per cent by weight on dry basis
(c)	Ash insoluble in dilute HCl	Not more than 0.38 per cent by weight on dry basis.



(d)	Protein(Nx6.25)	Not less than 48 per cent by weight on dry basis.
(e)	Crude fibre	Not more than 5.0 per cent by weight on dry basis.
(f)	Fat	Not more than 1.5 per cent by weight on dry basis
(g)	Total bacterial	Not more than 50,000 per gm.count
(h)	Coliform bacteria	Not more than 10 per gm.
(i)	Salmonella bacteria	Nil in 25 gm
(j)	Hexane (Food grade)	Not more than 10.00 ppm

**3. SOLVENT EXTRACTED SESAME FLOUR** means the product obtained by pressing, clean, sound healthy and decuticled sesame seeds followed by solvent extraction with food grade hexane or by direct extraction of kernels. It shall be in the form of flour of white or pale creamy white colour, of uniform composition and free from rancid and objectionable odour, extraneous matter, insects, fungus, rodent hair and excreta. It shall be free from added colour and flavour. It shall conform to the following standards, namely :-

(a)	Moisture	Not more than 9.0 per cent by Weight
(b)	Total ash	Not more than 6.0 per cent by weight on dry basis
(c)	Ash insoluble in dilute HCl	Not more than 0.15 per cent by weight on dry basis.
(d)	Protein (Nx6.25)	Not less than 47 per cent by weight on dry basis.
(e)	Crude fibre	Not more than 6.0 per cent by weight on dry basis.
(f)	Fat	Not more than 1.5 per cent by weight on dry basis
(g)	Total bacterial count	Not more than 50,000 per gm.
(h)	Coliform bacteria	Not more than 10 per gm.
(i)	Salmonella bacteria	Nil in 25 gm.
(j)	Oxalic Acid	Not more than 0.5 per cent by weight content on dry basis.
(k)	Hexane (Food grade)	Not more than 10.00 ppm.

**4. SOLVENT EXTRACTED COCONUT FLOUR** means the product obtained from fresh coconut Kernels or dried coconut copra of good quality and free from mould. Food grade hexane shall be used for extraction of the oil. It shall be of white or pale brownish yellow colour of uniform composition and free from rancid and objectionable odour, extraneous matter, insects, fungus, rodent hair and excreta. It shall be free from added colour and flavour. It shall conform to the following standards, namely :-

(a)	Moisture	Not more than 9.0 per cent by weight
(b)	Total ash	Not more than 6.0 per cent by weight on dry basis
(c)	Ash insoluble in - dilute HCl	Not more than 0.35 per cent by weight on dry basis.
(d)	Protein (Nx6.25)	Not less than 22.0 per cent by weight on dry basis.
(e)	Crude fibre	Not more than 9.0 per cent by weight on dry basis.
(f)	Fat	Not more than 1.5 per cent by weight on dry basis
(g)	Total bacterial -	Not more than 50,000 per gm.count
(h)	Coliform bacteria	Not more than 10 per gm.
(i)	Salmonella bacteria	Nil in 25 gm.
(j)	Hexane (Food grade)	Not more than 10.00 ppm.

**5. SOLVENT EXTRACTED COTTON SEED FLOUR** means the product obtained by solvent extraction of oil with food grade hexane from oil cake immediately following the single pressing, from cotton seed of good quality which have been pre-cleaned and are free from infected or otherwise damage materials and extraneous matter. It shall be in the form of flour of white or pale brownish colour, of uniform composition and free from rancid and objectionable odour, extraneous matter, insect, fungus, rodent hair and excreta. It shall be free from added colours and flavours. It shall conform to the following standards, namely :-

(a)	Moisture	Not more than 8.0 per cent by weight
(b)	Total ash	Not more than 5.0 per cent by weight on dry basis
(c)	Ash insoluble in dilute HCl	Not more than 0.35 per cent by weight on dry basis.

(d) Crude Protein (Nx6.25)	Not less than 47 per cent by weight on dry basis.
(e) Available lysine	Not less than 3.6 g. per 100 g. of crude protein.
(f) Crude fibre	Not more than 5.0 per cent by weight on dry basis.
(g) Free gossypol	Not more than 0.06 per cent by weight on dry basis.
(h) Total gossypol	Not more than 1.2 percent by weight on dry basis.
(i) Fat	Not more than 1.5 per cent by weight on dry basis.
(j) Total bacterial Count	Not more than 50,000 per gm.
(k) Coliform bacteria	Not more than 10 per gm.
(l) Salmonella bacteria	Nil in 25 gm.
(m) Hexane (Food grade) -	Not more than 10.00 ppm."

#### **Regulation 5.4.14 STARCHY FOODS:**

**1. ARROWROOT** means the separated and purified starch from the rhizomes of the plants known as *Maranta arundinacea* or from *Curcuma augustifolia*.

**2. SAGO** shall mean small hard globules or pearls made from either the starch of the sago palm or the tubers of topioca (*Manihot utilissima*) and shall be free from any extraneous matter including natural colours.

It shall conform to the following standards, namely:-

- (i) total ash (on dry basis) shall not be more than 0.4 per cent;
- (ii) ash insoluble in dilute hydrochloric acid (on dry basis) shall not exceed 0.1 percent

#### **Regulation 5.4.15 BAKERY PRODUCTS:**

**1. Biscuits including wafer biscuits** shall be made from maida, vanaspati or refined edible oil or table butter or desi butter or margarine or ghee or their mixture containing any one or more of the following ingredients, namely:-

Edible common salt, butter, milk powder, cereals and their products, cheese cocoa, coffee extract, edible desiccated coconut, dextrose, fruit

and fruits products, dry fruit and nuts, egg, edible vegetable products, ginger, gluten groundnut flour, milk and milk products, honey, liquid glucose, malt products, edible oilseeds, flour and meals, spices and condiments, edible starches such as potato starch and edible flours, sugar and sugar products, invert sugar, jaggery, protein concentrates, oligofructose (max 15%) vinegar and other nutrients and vitamins:

Provided that it may contain food additives specified in these regulations and in **Appendix A**:

Provided further that it may contain artificial sweetener as provided under label declaration in **Regulation 6.1.3**

Provided also that it shall conform to following standards, namely:-

- (a) ash insoluble in dilute hydrochloric acid (on dry basis):  
shall not be more than 0.1 per cent.
- (b) acidity of extracted fat (as oleic acid):- not exceeding 1.5  
per cent.

It may contain Oligofructose (dietary fibres) upto 15% maximum subject to label declaration under **Regulation 6.1.3**

**2. BREAD** whether sold as white bread or wheat meal bread or fancy or fruity bread or bun or masala bread or milk bread or of any other name, shall mean the product prepared from a mixture of wheat atta, maida, water, salt, yeast or other fermentive medium containing one or more of the following ingredients, namely:-

Condensed milk, milk powder (whole or skimmed), whey, curd, gluten, sugar, gur or jaggery, khandsari, honey, liquid glucose, malt products, edible starches and flour, edible groundnut flour, edible soya flour, protein concentrates and isolates, vanaspati, margarine or refined edible oil of suitable type or butter or ghee or their mixture, albumin, lime water, lysine, vitamins, spices and condiments or their extracts, fruit and fruit product (Candied and crystallized or glazed), nuts, nut products , oligofructose (max 15%) and vinegar:

Provided that it may also contain food additives specified in these regulations including **Appendix A**:

Provided further that it may also contain artificial sweetener as provided under label declaration in **Article 2 of Regulation 6.1.3**;

Provided also that it shall conform to the following standards, namely:-

(a) alcoholic acidity (with 90 per cent alcohol)	Shall be not more than equivalent of 7.5 ml. N NaOH per 100 g of dried substances.
(b) ash insoluble in dilute HCL on dry weight basis - (i) bread except masala bread or fruit bread	Not more than 0.1 per cent
(ii) masala bread or fruit bread	Not more than 0.2 per cent

Provided also that it shall be free from dirt, insect and insect fragments, larvae, rodent hairs and added colouring matter except any permitted food colours present as a carry over colour in accordance with the provision in Article **42 of Regulation 4.4.4**, in raw material used in the products.

It may contain Oligofructose (dietary fibres) upto 15% maximum subject to label declaration under labelling Regulations 4.2

## **PART 5.5. MEAT AND MEAT PRODUCTS**

### **Regulation 5.5.1 Definition:**

(a) "animal" means an animal belonging to any of the species specified below;-

- (i) Ovines;
- (ii) Caprines;
- (iii) Suillines;
- (iv) Bovines;

and includes poultry *and fish*

(b) "carcass" means the dead body or any part thereof including the viscera of any animal which has been slaughtered

(c) "meat" means the flesh and other edible parts of a carcass

(d) "meat food products" means any article of food or any article intended for, or capable of, being used as a food which is derived or prepared from meat by means of drying, curing, smoking, cooking, seasoning, flavouring, freezing or following a method of processing meat akin to any of the above methods, but shall not include the following products unless the manufacturer himself desires to be covered under the provisions of the said Regulations, namely:-

- (i) Meat extracts, meat consommé and stock, meat sauces and similar products not containing fragments of meat;
- (ii) Whole, broken or crushed bones, meat peptones, animal gelatin, meat powder, pork-rind powder, blood plasma, dried blood, dried blood plasma, cellular proteins, bone extracts and similar products;
- (iii) Fats melted down from animal tissues;
- (iv) Stomachs, bladders and intestines, clean and bleached, salted or dried;
- (v) Products containing fragments of meat, but which contain a quantity of meat or meat product not exceeding ten percent of the total weight of the final product;
- (vi) Patties, puffs, rolls, samosas, cutlets, koftas, kababs, chops, tikkas and soups made from mutton, chicken, goat meat, buffalo meat, beef and grilled chicken which are prepared for immediate consumption, the ampoules of chicken essence, hot-dogs and hamburgers prepared for immediate consumption which can not be stored even under refrigerated conditions; \* 2
- (vii) Chilled Poultry

(e) "Slaughter house" means the building, premises or place which is licensed as a slaughter house by the local authority for the slaughter of animals intended for human consumption.

### **Regulation 5.5.2 Meat and Meat Products:**

**1. CORNED BEEF** means the product prepared from boneless meat of carcass of bovine animals including buffalo meat, which have been subjected to antimortem and postmortem inspection.

The product shall be uniformly cured with edible common salt and sodium and / or potassium nitrite. The product may contain ascorbic acid, sodium ascorbate or isoascorbate acid/ sodium iso-ascorbate singly or in combination not exceeding 500 mg/kg. The product may also contain sucrose, dextrose, lactose, maltose and glucose syrup including corn syrup.

The product shall be packed in hermetically sealed containers and subjected to heat treatment followed by rapid cooling to ensure that the product is shelf stable. The sealed containers shall not show any change on incubation at 35°C for 10 days and 55°C for 5 days.

The product shall be in the form of a solid pack capable of being sliced.

The product shall be free from any added colour and natural and artificial flavour. The product shall be clean and substantially free from staining and contamination from the container, foreign matter and objectionable odour.

The product shall conform to the following requirements, namely:—

<b>Sl. No.</b>	<b>Characteristics</b>	<b>Requirements</b>
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
(1)	Total Plate Count	1000 / gram maximum
(2)	E.Coli	Absent in 25 gram
(3)	Solmonella	Absent in 25 gram
(4)	Staphylococcus aureus	Absent in 25 gram

(5)	Clostridium perfringens and Clostridium Botulinum	Absent in 25 gram

**2. LUNCHEON MEAT** means the product prepared from edible portion of meat of mammalian animal, slaughtered in an abattoir, which have been subjected to antimortem and postmortem inspection and/or edible meat of poultry, birds, including chickens, turkeys, ducks, geese, guinea fowl or pigeons slaughtered in an abattoir.

The product shall be uniformly cured with edible common salt and sodium and /or potassium nitrite. The product may be with or without binders such as cereal flour/starch, bread, biscuits or bakery products, milk powder, whey powder, egg protein, vegetable protein products, glucose, invert sugar, dextrose, lactose, maltose, glucose syrup, including corn syrup, spices, seasoning and condiments and water soluble hydrolysed protein.

The product may be smoked and flavoured with natural and natural identical flavours and permitted flavour enhancer.

The product may contain ascorbic acid / isoascorbic acid and its sodium salts singly or in combination not exceeding 500 mg/kg expressed as ascorbic acid as antioxidant and sodium and or potassium mono - di - polyphosphates singly or in combination not exceeding 3000 mg/kg expressed as P<sub>2</sub>O<sub>5</sub> as water retention agents.

The product shall be packed in hermetically sealed container and subjected to heat treatment followed by rapid cooling to ensure that the product is shelf stable. The sealed container shall not show any change on incubation at 35°C for 10 days and 55°C for 5 days.

The product shall be clean and substantially free from stains from the container and foreign matter and shall be capable of being sliced.

The product shall conform to the following requirement, namely:-

Sl. No.	Characteristics	Requirements
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
(1)	Total Fat content:	
	a) Product without binder	Not more than 30.0 percent
	b) Product with binder	Not more than 35.0 percent



(2)	Total Plate Count	1000 / gram maximum
(3)	E.Coli	Absent in 25 gram
(4)	Salmonella	Absent in 25 gram
(5)	Staphylococcus aureus	Absent in 25 gram
(6)	Clostridium perfringens and Clostridium Botulinum	Absent in 25 gram

**3. COOKED HAM** means the product prepared from meat of pigs which have been subjected to antimortem and postmortem inspection. The product shall be free from bones, detached cartilage tendons, ligaments and may be with or without skin and fat. The product shall be uniformly cured with edible common salt and sodium and / or potassium nitrite.

The product may contain sucrose, invert sugar, dextrose, lactose, maltose, glucose syrup including corn syrup, honey, spices, seasoning and condiments, water soluble hydrolysed protein and food grade gelatin. The product may be smoked and flavoured with natural flavouring substances and nature identical flavours as well as permitted flavour enhancers. The product may contain ascorbic acid / isoascorbic acid and its sodium salt singly or in combination not exceeding 500 mg/kg expressed as ascorbic acid, sodium and or potassium mono - di - polyphosphates singly or in combination not exceeding 3000 mg/ kg expressed as P<sub>2</sub>O<sub>5</sub> as antioxidant and water retention agents respectively. The product may also contain sodium/potassium alginate not exceeding 10 mg/kg and or agar, carrageenan and sodium citrate as emulsifying and stabilizing agents.

The product shall be packed in hermetically sealed containers and subjected to heat treatment followed by rapid cooling to ensure that the product is shelf stable. The sealed containers shall not show any change on incubation at 35<sup>0</sup>C for 10 days and 55<sup>0</sup>C for 5 days.

The product shall be free from any stains from the container/package, objectionable matter and shall be capable of being sliced.

The product shall conform to the following requirement, namely:-

Sl. No.	Characteristics	Requirements
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
(1)	Total Plate Count	1000 / gram maximum

(2)	E.Coli	Absent in 25 gram
(3)	Salmonella	Absent in 25 gram
(4)	Staphylococcus aureus	Absent in 25 gram
(5)	Clostridium perfringens and Clostridium Botulinum	Absent in 25 gram

**4. CHOPPED MEAT** means the product prepared from edible portion of meat of mammalian animals slaughtered in an abattoir, which have been subjected to antimortem and postmortem inspection and / or edible meat of poultry birds including chickens, turkeys, ducks, geese, slaughtered in an abattoir.

The product shall be uniformly cured with edible common salt and Sodium or Potassium Nitrite. The product may be with or without binders such as cereal flour/starch, bread, biscuit, or bakery product. Vegetable protein product, fructose, invert sugar; dextrose, lactose, maltose, glucose syrup including corn syrup, spices, seasoning and condiments and water soluble hydrolysed protein.

The product may be smoked and flavoured with natural and nature identical flavours and permitted flavour enhancer.

The product may contain ascorbic acid / iso-ascorbic acid and its sodium salts singly or in combination not exceeding 500 mg / kg expressed as ascorbic acid and sodium and or potassium mono-di-polyphosphate, singly or in combination not exceeding 3000 mg/kg expressed as P<sub>2</sub>O<sub>5</sub> as antioxidants and water retention agent respectively.

The product shall be packed in hermetically sealed containers and subjected to heat treatment followed by rapid cooling to ensure that the product is shelf stable. The sealed containers shall not show any change on incubation at 35°C for 10 days and 55°C for 5 days.

The product shall be clean and substantially free from staining and contamination from the container, foreign matter and shall be capable of being sliced. The product shall conform to the following requirements, namely:-

Sl. No.	Characteristics	Requirements

<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
(1)	Total Fat content:	
	a) Product without binder	Not more than 25.0 percent
	b) Product with binder	Not more than 30.0 percent
(2)	Total Plate Count	1000 / gram maximum
(3)	E.Coli	Absent in 25 gram
(4)	Salmonella	Absent in 25 gram
(5)	Staphylococcus aureus	Absent in 25 gram
(6)	Clostridium perfringens and Clostridium Botulinum	Absent in 25 gram

**5. CANNED CHICKEN** means the product prepared from edible portion of meat of poultry birds, slaughtered in an abattoir, which have been subjected to antimortem and postmortem inspection. The product shall be free from bones, blood clots, skin, hair, viscera and bruised/disintegrated material.

The product shall be cured with a mixture of edible common salt and sodium nitrite. The product shall be free from added colour flavour and meat tenderized. The packing medium and other ingredients shall be of food grade quality.

The product shall be packed in hermetically sealed clean and sound tin containers and subjected to adequate heat treatment followed by rapid cooling to ensure that the product is shelf stable. The sealed containers shall not show any change on incubation at 35<sup>0</sup>C for 10 days and 55<sup>0</sup>C for 5 days.

The contents shall have the characteristic colour, free from objectionable odour, discolouration and excessive disintegration.

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

<b>Sl. No.</b>	<b>Characteristics</b>	<b>Requirements</b>
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
(1)	Total Plate Count	1000 / gram maximum
(2)	E.Coli	Absent in 25 gram
(3)	Salmonella	Absent in 25 gram
(4)	Staphylococcus aureus	Absent in 25 gram

(5)	Clostridium perfringens and Clostridium Botulinum	Absent in 25 gram
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**6. CANNED MUTTON AND GOAT MEAT** means the product prepared from edible portion of meat of Bovine animals slaughtered in an abattoir, which have been subjected to antimortem and postmortem inspection. The product shall be free from bones, blood clots, skin, hair, strings and fibrous tissue, bruised material, viscera, tendons and excessive fat.

The product shall be cut into pieces of reasonably uniform size and cured with a mixture of edible salt and sodium nitrate and or sodium nitrite. The product shall be free from added colour, flavour and meat tenderizer. The packing medium and other ingredients shall be of food grade quality.

The product shall be packed in hermetically sealed clean and sound tin containers and subjected to adequate heat treatment followed by rapid cooling to ensure that the product is shelf stable. The sealed container shall not show any change on incubation at 35<sup>0</sup>C for 10 days and 55<sup>0</sup>C for 5 days.

The contents shall have characteristic colour, free from objectionable odour, discoloration and excessive disintegration.

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

Sl. No.	Characteristics	Requirements
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
(1)	Total plate count	1000 / gram maximum
(2)	E.Coli	Absent in 25 gram
(3)	Salmonella	Absent in 25 gram
(4)	Staphylococcus aureus	Absent in 25 gram
(5)	Clostridium perfringens and Clostridium Botulinum	Absent in 25 gram

**7. FROZEN MUTTON, GOAT BEEF AND BUFFALO MEAT** means the product prepared from edible portion of meat of Bovine animals including buffalo meat slaughtered in an abattoir, which have been subjected to

antimortem and postmortem inspection.

The fresh meat meant for freezing shall be clean, free from any foreign matter, objectionable odour/flavour and evidence of deterioration. Meat shall be prepared by quickly freezing in an appropriate equipment in such a way that the range of temperature of maximum crystallization is passed quickly and the product attains a temperature of - 18<sup>0</sup>C or colder at the thermal centre after thermal stabilization. The product shall be kept deep frozen so as to maintain its quality during transportation, storage and sale.

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

<b>Sl. No.</b>	<b>Characteristics</b>	<b>Requirements</b>
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
(1)	Total Plate Count	100000 / gram maximum
(2)	E.Coli	100 / gram maximum
(3)	Staphylococcus aureus	100 / gram maximum
(4)	Clostridium perfringens and Clostridium Botulinum	30/ gram maximum
(5)	Yeast and mould count	1000/ gram maximum
(6)	Salmonella	Absent in 25 gram
(7)	Listeria monocytogenes	Absent in 25 gram

## **PART 5.6. Fish and Fish Products:**

### **Regulation 5.6.1 Fish and Fish Products**

**1. Frozen Shrimps or Prawns** means the product prepared from fresh shrimps of sound quality belonging to Penaeidae, Pandalidae, Crangonidae, Palaeomonidae Solenoceridae, Aristeidae and Sergestidae families. The product shall not contain a mixture of genera but may contain mixture of species of same genus with similar sensory properties. The product may be peeled or unpeeled, raw or cooked. The product may be glazed with water. The product shall conform to the following requirements:-

S.No.	Characteristics	Requirements in Raw Product	Requirement in Cooked Product
(1)	Total Volatile Base (Nitrogen)	Not more than 30 mg/100 gm	Absent in 25gm

**2. Frozen Lobsters** means the product prepared from fresh lobsters of sound quality belonging to the genus Homarus of the family Nephropidae and from the families Palinuridae and Scyllaridae. The Norway Lobster may be prepared from Nephros norvegicus. The product shall not be a mixture of different species. The product may be raw or cooked. The product may be glazed with water. The product shall conform to the following requirements:-

S.No.	Characteristics	Requirements in Raw Product	Requirement in Cooked Product
(1)	Total Volatile Base (Nitrogen)	Not more than 30 mg/100 gm	Absent in 25gm

**3. Frozen squid** and parts of squid means the product prepared from fresh squid of sound quality belonging to squid species of Loliginidae, Ommastrephidae Onychoteuthide and Thysanotenthidae families. The product may be glazed with water. No food additive is allowed in this product. The product shall conform to the following requirements:

S.No.	Characteristics	Requirements in Raw Product
(1)	Total Volatile Base (Nitrogen)	Not more than 30 mg/100 gm

**4. Frozen finfish** means the product prepared from fresh fish of good quality. The product may be with or without head from which viscera or other organs have been completely or partially removed. The product may be glazed with water. The products shall conform to the following requirements:—

S.No.	Characteristics	Requirements in Raw Product
(1)	Total Volatile Base (Nitrogen)	Not more than 30 mg/ 100gm
(2)	Histamine	Not more than 20 mg / 100gm

**5. Frozen fish fillets or minced fish flesh or mixtures thereof** are products obtained from fresh wholesome fish of any species or mixtures

of species with similar-sensory properties. Fillets may be pieces of irregular size and shape with or without skin. Minced fish flesh consists of particles of skeletal muscle". and is free from bones, viscera and skin. The product may be glazed with water. The products shall conform to the following requirement:-

<b>S.No.</b>	<b>Characteristics</b>	<b>Requirements</b>
(1)	Total Volatile Base (Nitrogen)	Not more than 30 mg/100gm
(2)	Histamine	Not more than 20 mg / 100gm

**Note I: Products under article 1, 2, 3, 4 AND 5** shall be frozen in an appropriate equipment quickly to minus (-) 18° C or colder in such a way that the range of temperature of maximum crystallization is passed quickly. The quick freezing process shall not be regarded as complete unless the product temperature has reached minus (-) 18° C or colder at the thermal centre after thermal stabilization. The product shall be kept deep frozen so as to maintain the quality during transportation, storage and sale. The entire operation including processing and packaging shall ensure minimum dehydration and oxidation. The product may contain food additives permitted in **Appendix A** except listed product under **Article 3 of Regulation 5.6.1**. The product shall conform to the microbiological requirement given in **Appendix B**. The products shall be free from any foreign matter and objectionable odour/flavour.

**6. Dried shark fins** means the product prepared from dorsal and pectoral fins, lower lobe of caudal fin and Pelvic from fresh shark of edible quality. The product shall be free from adhering flesh and may be with or without skin. The product shall be dried in a suitable manner and shall be free from any food additive. The product shall be free from foreign matter, objectionable odour or flavour and rancidity. No food additive is allowed in this product. The products shall conform to the following requirements:-

<b>S.No.</b>	<b>Characteristics</b>	<b>Requirements</b>
(1)	Moisture	Not more than 10.0 percent
(2)	Ash insoluble in HCL on dry basis	Not more than 1.0 percent
(3)	Yeast and Mould Count	Absent in 25gm

**7. Salted fish/dried salted fish** means the product prepared from fresh wholesome fish. The fish shall be bled, gutted, beheaded, split or filleted and washed. The fish shall be fully saturated with salt (Heavy salted) or partially saturated to a salt content not less than 10 percent by weight of the salted fish which has been dried. The product shall be free from foreign matter, objectionable odour and flavour. The product may contain food additives permitted in **Appendix A**. The product shall conform to the microbiological requirement given in **Appendix B**. The products shall conform to the following requirements:-

S.No.	Characteristics	Requirements
(1)	Moisture	Not more than 16.0 percent
(2)	Sodium chloride	Not less than 10.0 percent and not more than 15.0 percent
(3)	Ash insoluble in HCL on dry basis	Not more than 1.0 percent
(4)	Yeast and Mould Count	Absent in 25gm

**8. Canned finfish** means the product prepared from the flesh of fresh finfish of sound quality belonging to any one species or mixture of species within the same genus having similar sensory properties. The product shall be free from head, tail and viscera. The product may be packed in any suitable packing medium. The packing medium and other ingredients used shall be of food grade quality. The products shall conform to the following requirements:-

S.No.	Characteristics	Requirements
(1)	Histamine Content	Not more than 20 mg/100 gm
(2)	Total Volatile Base (Nitrogen)	Not more than 30mg/100gm

**9. Canned Shrimp** means the product prepared from fresh shrimp of sound quality from any combination of species of families Penaeidae, Pandalidae, Crangonidae and Palaemonidae from which heads, shell and antenna have been removed. The product may be in the form of peeled shrimps which have been headed and peeled without removal of the dorsal tract or cleaned and deveined shrimps in which the back is cut open after peeling and dorsal tract has been removed upto the last



segment next to the tail or broken shrimps consisting of pieces of peeled shrimp of less than four segments with or without the vein removed. The packing medium and other ingredients shall be of food grade quality. The products shall conform to the following requirements:-

S.No.	Characteristics	Requirements
(1)	Total Volatile Base (Nitrogen)	Not more than 30 mg/100 gm
(2)	Acidity in brine expressed as Citric Acid	Not more than 0.2 percent

**10. Canned sardines or sardine type products** means, the product prepared from fresh or frozen fish belonging to *Sardinia pilchardus*, *Sardinia milanstictus*, *neopilchardus*, *ocellatus*, *sagax/caeruleus*, *Sardinia aurita/brasiliensis*, *maderensis*, *longiceps*, *gibbosa*, *celupea*, *harengus*, *Sprattus sprattus*, *Hypertophus vittatus*, *Nematolosaviaminghi*, *Etrumeus tesus*, *Ethmedium maculatum*, *Engranulis anchoita/mordax/ringens* and *opisthonema oglinum*.

The product shall be free from head and gills. It may be free from scales and or tail. The fish may be eviscerated. If eviscerated it shall be practically free from visceral parts other than roe milt or kidney. If ungutted it shall be practically free from undigested feed or used feed. The product shall be packed in any suitable medium. The packing medium and all other ingredients shall be of food grade quality. The products shall also conform to the following requirements:-

S.No.	Characteristics	Requirements
(1)	Histamine Content	Not more than 20 mg/100 gm
(2)	Total Volatile Base (Nitrogen)	Not more than 30mg/100 gm

**11. Canned salmon** means the product prepared from fresh fish of sound quality belonging to any of the species of *Salmosalar* or *Oncorhynchus nerka/kisutchi*, *tschawytscha/gorboscha/ketax* and *masou* species. The product shall be free from head, viscera, fins and tails. The product shall be packed in any suitable medium. The packing medium and all other ingredients shall be of food grade quality. No food additive is allowed in this product. The product shall conform to the following requirement.

<b>S.No.</b>	<b>Characteristics</b>	<b>Requirements in Raw Product</b>
(1)	Total Volatile Base (Nitrogen)	Not more than 30 mg/100 gm

**12. Canned crab meat** means the product prepared from live crabs of sound quality from any of the edible species of the suborder Branchyura or the order Decapoda and all species of the family Lithodiadae. The product shall be prepared singly or in combination from the leg, claw, body and shoulder meat from which the shell has been removed. The product shall be packed in any suitable medium. The packing medium and all other ingredients shall be of food grade quality. The products shall conform to the following requirements:-

<b>S.No.</b>	<b>Characteristics</b>	<b>Requirements</b>
(1)	Total Volatile Base (Nitrogen)	Not more than 30mg/100 gm
(2)	Acidity in brine expressed as Citric Acid	Not less than 0.06 percent and Not more than 0.2 percent

**13. Canned Tuna and Bonito** means the product prepared from fresh fish of sound quality belonging to *Thunnus alalunga/albacares/atlanticus/obessul maccoyii/thynnus tongoe*, *Euthynnus affinis/alleteratus/Jinlatus/Sarda chilentis/orientalis* *Sarda* and *Katsuwonus pelamis* (syn *Euthynnus pelamis*) species. The product may be in the form of segments with or without skin, chunks, flakes or grated / shredded particles. The product shall be packed in any suitable medium. The packing medium and all other ingredients shall be of food grade quality. The products shall conform to the following requirements:-

<b>S.No.</b>	<b>Characteristics</b>	<b>Requirements</b>
(1)	Histamine Content	Not more than 20mg/100 gm
(2)	Total Volatile Base (Nitrogen)	Not more than 30mg/100 gm

**Note II:** All the product listed under ARTICLES 8, 9, 10, 11, 12 and 13 shall be packed in hermetically sealed clean and sound containers and subjected to adequate heat treatment followed by rapid cooling to ensure commercial sterility. The container shall be free from rust and mechanical defects. The container shall not show any change or incubation at 37°C for 7 days. The final product shall be free from foreign matter, objectionable odour, or flavour. The products may contain food additives

permitted in **Appendix A** except products listed under **Article 11 of Regulation 5.6.1** . The product shall conform to the microbiological requirement given in **Appendix B**.

**Note**– Without prejudice to the standards laid down in this Appendix, whenever water is used in the manufacture or preparation of any article of food, such water shall be free from micro-organisms likely to cause disease and also free from chemical constituents which may impair health.

## **PART 5.7. SWEETENERS INCLUDING HONEY:**

### **Regulation 5.7.1 Sweets and Confectionery:**

**1. Sugar boiled confectionery** whether sold as hard boiled sugar confectionery or pan goods confectionery or toffee or milk toffee or modified toffee or lacto-bon-bon or by any other name shall mean a processed composite food article made from sugar with or without doctoring agents such as cream of tartar by process of boiling whether panned or not. It may contain centre filling, or otherwise, which may be in the form of liquid, semi-solid or solids with or without coating of sugar or chocolate or both. It may also contain any of the following:-

- (i) sweetening agents such as sugar, invert sugar, jaggery, lactose, gur, bura sugar, khandsari, sorbitol, honey, liquid glucose;
- (ii) milk and milk products;
- (iii) edible molasses;
- (iv) malt extracts;
- (v) edible starches;
- (vi) edible oils and fats;
- (vii) edible common salts;
- (viii) fruit and fruit products and nut and nut products;
- (ix) tea extract, coffee extract, chocolate, cocoa;
- (x) vitamins and minerals;
- (xi) shellac (food grade) not exceeding 0.4 per cent by weight bee wax (food grade), paraffin wax food grade, carnauba wax (food grade), and other food grade wax or any combination thereof;
- (xii) edible desiccated coconut;
- (xiii) spices and condiments and their extracts;

- (xiv) candied peels;
- (xv) enzymes;
- (xvi) permitted stabilizing and emulsifying agents;
- (xvii) edible foodgrains; edible seeds;
- (xviii) baking powder;
- (xix) gulkand, gulabanaafsha, mulathi;
- (xx) puffed rice;
- (xxi) china grass;
- (xxii) eucalyptus oil, camphor, menthol oil crystals, pepper mint oil;
- (xxiii) thymol;
- (xxiv) edible oil seed flour and protein isolates;
- (xxv) gum arabic and other edible gum.

It shall also conform to the following standards, namely:-

- |   |  |     |
|---|--|-----|
| (i) Ash sulphated -<br>salt free basis) | Not more than 2.5<br>per cent by weight. | (on |
|---|--|-----|

Provided that in case of sugar boiled confectionery where spices are used as centre filling, the ash sulphated shall not be more than 3 per cent by weight.

- |   |  |
|---|--|
| (ii) Ash insoluble (in dilute<br>Hydrochloric acid) | Not more than 0.2 Per cent by<br>weight. |
|---|--|

Provided that in case of sugar boiled confectionery where spices are used as centre filling, the ash insoluble in dilute Hydrochloric acid shall not be more than 0.4 per cent.

Where the sugar boiled confectionery is sold under the name of milk toffee and butter toffee, it shall conform to the following additional requirements as shown against each;

**(1) Milk toffee-**

- (i) Total protein (N x 6.25) shall not be less than 3 per cent by weight on dry basis.
- (ii) Fat content shall not be less than 4 per cent by weight on dry basis.

**(2) Butter toffee-** fat content shall not be less than 4 per cent by weight on dry basis.

Provided that it may contain food additives permitted in Table 2 of

**Appendix A** of these regulations.

Provided further that if artificial sweetener has been added as provided in **Regulation 6.1.3**

The product may contain food additives permitted in **Appendix A**.

**2. Lozenges:** Lozenges shall mean confections made mainly out of pulverised sugar, or icing sugar with binding materials such as edible gums, edible gelatine, liquid glucose or dextrin and generally made from cold mixing which does not require primary boiling or cooking of the ingredients. It may contain any of the following:-

- (i) sweetening agents such as dextrose, dextrosemonohydrate, honey, invert sugar, sugar, jaggery, bura sugar, khandsari, sorbitol, liquid glucose;
- (ii) milk and milk products;
- (iii) nuts and nuts products;
- (iv) malt syrup;
- (v) edible starches;
- (vi) edible common salt;
- (vii) ginger powder or extracts;
- (viii) cinnamon powder or extracts;
- (ix) aniseed powder or extracts;
- (x) caraway powder or extracts;
- (xi) cardamon powder or extracts;
- (xii) cocoa powder or extracts;
- (xiii) protein isolates;
- (xiv) coffee-extracts or its flavour;
- (xv) permitted colour matter;
- (xvi) permitted emulsifying and stabilizing agents
- (xvii) vitamins and minerals;

It shall also conform to the following standards:

- |   |  |
|---|--|
| (i) Sucrose content-                    | Not less than 85.0 per cent by weight. |
| (ii) Ash sulphated<br>(Salt free basis) | Not more than 3.0 per cent by weight   |

(iii) Ash insoluble in dilute acid                      Not more than 0.2 per cent Hydrochloric acid by weight.

The product may contain food additives permitted in **Appendix A**.

Provided that if artificial sweetener has been added in the product, it shall be declared on the label as provided in **Regulation 6.1.3**:

Provided further that if only permitted artificial sweetener is used in the products as sweetener, the requirement for sucrose prescribed in these standards shall not be applicable to such products.

**3. Chewing gum and bubble gum** shall be prepared from chewing gum base, or bubble gum base, natural or synthetic, non-toxic; cane sugar and liquid glucose (corn syrup).

The following sources of gum base may be used:-

- (1) Babul, Kikar (gum Arabic)
- (2) KHAIR
- (3) Jhingan (Jael)
- (4) Ghatti
- (5) Chiku (Sapota)
- (6) Natural rubber latex
- (7) Synthetic rubber latex
- (8) Glycerol ester of wood resin
- (9) Glycerol ester of gum resin
- (10) Synthetic resin
- (11) Glycerol ester or partially hydrogenated gum or wood resin.
- (12) Natural resin
- (13) Polyvinyl acetate
- (14) Agar (food grade)

It may also contain any of the following ingredients, namely:-

- a. Malt
- b) Milk powder
- c) Chocolate
- d) Coffee
- e) Gelatin, food grade

- f) Permitted Emulsifiers
- g) Water, potable
- h) Nutrients like Vitamins, minerals, proteins

It shall be free from dirt, filth, adulterants and harmful ingredients. it shall also conform to the following standards, namely:-

	Ingredients	Chewing gum	Bubble gum
(i)	Gum	Not less than 12.5 per cent by weight	Not less than 14.0 per cent by weight
(ii)	Moisture	Not more than 3.5% by weight	Not more than 3.5 per cent by weight
(iii)	Sulphated Ash	Not more than 9.5% by weight.	Not more than 11.5 per cent by weight.
(iv)	Acid insoluble ash	Not more than 2.0% by weight.	Not more than 3.5 per cent by weight.
(v)	Reducing sugars (calculated as dextrose)	Not less than 4.5% by weight.	Not less than 5.5 per cent by weight.
(vi)	Sucrose	Not more than 70.0% by weight.	Not more than 60.0 percent by weight.

Provided that it may contain food additives permitted in Table 2 of **Appendix A** and these regulations.

Provided further, if artificial sweetener has been added as provided in **Regulation 6.1.3**.

Provided also, that, if only artificial sweetener is added in the product as sweeteners the parameters namely, reducing sugars and sucrose prescribed in the table above shall not be applicable to such product

The product may contain food additives permitted in **Appendix A**.

**4. Chocolate-** Chocolate means a homogeneous product obtained by an adequate process of manufacture from a mixture of one or more of the ingredients, namely, cocoa beans, cocoa nib, cocoa mass, cocoa press cake and cocoa dust (cocoa fines/powder), including fat reduced cocoa powder with or without addition of sugars, cocoa butter, milk solids including milk fat. The chocolates shall not contain any vegetable fat other than cocoa butter.

The material shall be free from rancidity or off odour, insect and fungus infestation, filth, adulterants and any harmful or injurious matter.

The chocolates shall be of the following types:-

Milk chocolates is obtained from one or more of cocoa nib, cocoa mass, cocoa press cake, cocoa powder including low-fat cocoa powder with sugar and milk solids including milk fat and cocoa butter.

Milk Covering Chocolate - as defined above, but suitable for covering purposes.

Plain Chocolate is obtained from one or more of cocoa nib, cocoa mass, cocoa press cake, cocoa powder including low fat cocoa powder with sugar and cocoa butter.

Plain Covering Chocolate-same as plain chocolate but suitable for covering purposes.

Blended Chocolate means the blend of milk and plain chocolates in varying proportions.

White chocolate is obtained from cocoa butter, milk solids, including milk fat and sugar.

Filled Chocolates means a product having an external coating of chocolate with a centre clearly distinct through its composition from the external coating, but does not include flour confectionery pastry and biscuit products. The coating shall be of chocolate that meets the requirements of one or more of the chocolate types mentioned above. The amount of chocolate component of the coating shall not be less than 25 per cent of the total mass of the finished product.

Composite Chocolate-means a product containing at least 60 per cent of chocolate by weight and edible wholesome substances such as fruits, nuts. It shall contain one or more edible wholesome substances which shall not be less than 10 per cent of the total mass of finished product.

Provided that it may contain artificial sweeteners as provided in **Regulation 6.1.3.**



Provided further that in addition to the ingredients mentioned above, the chocolate may contain one or more of the substances as outlined below, under different types of chocolates.

- (a) edible salts
- (b) spices and condiments
- (c) permitted emulsifying and stabilizing agents
- (d) permitted sequestering and buffering agents.

The product may contain food additives permitted in **Appendix A**.

**Chocolates shall also conform to the following standards namely:-**

Sl. No. Characteristics	Requirements for					
	Milk Covering	Milk Covering Chocolate	Plain Chocolate	Plain Covering Chocolate	White Chocolate	Blended Chocolate
1. Total fat (on dry basis) per cent by weight. Not less than	25	25	25	25	25	25
2. Milk fat (on dry basis) Percent by weight. Not less than	2	2	-	-	2	-
3. Cocoa solids (on Moisture-free and fat free basis) percent by weight	2.5	2.5	12	12	-	3.0
Not less than	10.5	10.5	-	-	10.5	1
4. Milk Solids (on Moisture-free and fat-free basis) percent by weight. Not less than/not more than		-	-	-	-	9
5. Acid insoluble ash	0.2	0.2	0.2	0.2	0.2	0.2

(on moisture fat and sugar free basis) percent by weight. Not more than					
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### Regulation 5.7.2: SUGAR

**1. PLANTATION WHITE SUGAR** (commonly known as sugar) means the crystallised product obtained from sugarcane or sugar beet. It shall be free from dirt, filth, iron filings, and added colouring matter. Extraneous matter shall not exceed 0.1 per cent by weight. It shall also conform to the following standards, namely :-

a) Moisture (when heated at 105 degree $\pm$ 1 degree C for 3 hours)	Not more than 0.5 per cent by weight.
b) Sucrose	Not less than 98 per cent by weight.

The product may contain food additives permitted in these regulations including **Appendix A**.

**2. REFINED SUGAR** means the white crystallised sugar obtained by refining of plantation white sugar. It shall be free from dirt, filth, iron filings and added colouring matter. Extraneous matter shall not exceed 0.1 per cent by weight. It shall also conform to the following standards, namely:-

(a)	Moisture (when heated at 105 <sup>0</sup> $\pm$ 1 <sup>0</sup> C for 3 hours)	Not more than 0.5 per cent by weight.
(b)	Sucrose	Not less than 99.5 per cent by weight.

The product may contain food additives permitted in these regulations including **Appendix A**.

**3. KHANDSARI SUGAR** obtained from sugarcane juice by open pan process may be of two varieties, namely:

- (i) Khandsari Sugar Desi; and
- (ii) Khandsari Sugar (sulphur) also known as "Sulphur Sugar".

It may be crystalline or in powder form. It shall be free from dirt, filth, iron filings and added colouring matter. Extraneous matter shall not exceed 0.25 per cent by weight. It may contain sodium bicarbonate (food grade). It shall also conform to the following standards, namely:-

		<b>Khandsari Sugar (Sulphur Sugar)</b>	<b>Khandsari Sugar (Desi)</b>
(i)	Moisture (when heated at 105° ± 1° C for 3 hours)	Not more than 1.5 per cent by weight.	Not more than 1.5 per cent by weight.
(ii)	Ash insoluble in dilute hydrochloric acid	Not more than 0.5 per cent by weight	Not more than 0.7 per cent by weight.
(iii)	Sucrose	Not less than 93.0 per cent by weight.	Not less than 96.5 per cent by weight.

The product may contain food additives permitted in these regulations including **Appendix A**.

**NOTE:** - Khandsari sugar can be distinguished from plantation white sugar on the following characteristics, namely:

		<b>Khandsari Sugar (Sulphur Sugar)</b>	<b>Khandsari Sugar (Desi)</b>
(i)	Conductivity (10 <sup>6</sup> mho/cm <sup>2</sup> )	100-300 in 5% solution at 30°C	Not more than 100 in 5% solution at 30°C
(ii)	Calcium oxide (mg/100gms)	Not more than 100	Not more than 50

The product may contain food additives in **Appendix A**

**4. "BURA SUGAR"** means the fine grain size product made out of any kind of sugar. It shall be free from dirt, filth, iron filing and added colouring matter. Extraneous matter shall not exceed 0.1 per cent by weight. It shall also conform to the following standards, namely:-

(a)	Sucrose	Not less than 90.0 per cent by weight.
(b)	Ash insoluble in dilute hydrochloric acid	Not more than 0.7 per cent by weight.

The product may contain food additives permitted in these regulations including **Appendix A**.

**5. CUBE SUGAR** means the sugar in the form of cube or cuboid blocks manufactured from refined crystallised sugar. It shall be white in colour, free from dirt and other extraneous contamination. It shall conform to the following standards :-

Sucrose Not less than 99.7 per cent by weight.

Moisture Not more than 0.25 per cent by weight.

Total ash Not more than 0.03 per cent by weight.

The product may contain food additives permitted in these regulations including **Appendix A**.

**6. ICING SUGAR** means the sugar manufactured by pulverizing refined sugar or vacuum pan (plantation white) sugar with or without edible starch. Edible starch, if added, shall be uniformly extended in the sugar. It shall be in form of white powder, free from dust, or any other extraneous matter.

The product may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the following standards:-

Total starch and sucrose (moisture free) Not less than 99.0 per cent by weight.

Moisture Not more than 0.80 per cent by weight.

Starch Not more than 4.0 per cent by weight on dry basis.

**Regulation 5.7.3: MISRI**

**1. MISRI** means the product made in the form of candy obtained from any kind of sugar or palmyrah juice. It shall be free from dirt filth, iron filings and added colouring matter. Extraneous matter shall not exceed 0.1 per cent by weight. It shall also conform to the following standards, namely:-

(a) Total ash	Not more than 0.4% by weight
(b) Total Sugar (Called, known or expressed as Sucrose)	Not less than 98.0% by weight

The product may contain food additives permitted in these regulations including **Appendix A**.

**Regulation 5.7.4: "HONEY"**

**1. "HONEY"** means the natural sweet substance produced by honey bees from the nectar of blossoms or from secretions of plants which honey bees collect, transform store in honey combs for ripening.

When visually inspected, the honey shall be free from any foreign matter such as mould, dirt, scum, pieces of beeswax, the fragments of bees and other insects and from any other extraneous matter.

The colour of honey vary from light to dark brown. Honey shall conform to the following standards, namely:—

(a)	Specific gravity at 27°C	Not less than 1.35
(b)	Moisture	Not more than 25 per cent by mass
(c)	Total reducing sugars	Not less than 65.0 per cent by mass
	(i) for Carbia colossa and Honey dew	Not less than 60 per cent by mass
(d)	Sucrose	Not more than 5.0 per cent by mass
	(i) for Carbia colossa and Honey dew	Not more than 10 per cent by mass
(e)	Fructose-glucose ratio	Not less than 0.95 per cent by mass
(f)	Ash	Not more than 0.5 per cent by mass
(g)	Acidity (Expressed as formic acid)	Not more than 0.2 per cent by mass
(h)	Fiehe's test	Negative
(i)	Hydroxy methyl furfural (HMF), mg/kg	Not more than 80

If Fiehe's test is positive, and hydroxy methyl furfural (HMF) content is more than 80 milligram/kilogram then fructose glucose ratio should be

1.0 or more.

### **Regulation 5.7.5: "ICE LOLLIES OR EDIBLE ICES"**

**1. "ICE LOLLIES OR EDIBLE ICES"** means the frozen ice produce which may contain sugar, syrup, fruit, fruit juices, cocoa, citric acid, permitted flavours and colours. It may also contain permitted stabilizers and/or emulsifiers not exceeding 0.5 per cent by weight. It shall not contain any artificial sweetener.

2, Ice Candy means the frozen ice produce which may contain fruit, fruit juices, cocoa, nuts, citric acid, permitted flavours and colours. It may also contain permitted stabilizers and/or emulsions not exceeding 0.5 percent by weight. The total sugar expressed as sucrose shall not less than 10 percent by weight. It shall not contain any artificial sweetener"

**Ice Candy** means the product obtained by freezing a pasteurized mix prepared from a mixture of water, nutritive sweeteners e.g. sugar, dextrose, liquid glucose, dried liquid glucose, honey, fruits and fruit products, coffee, cocoa, ginger, nuts and salt. The product may contain food additives permitted in these regulations including **Appendix A**. It shall conform to the microbiological requirements prescribed in **Appendix B**. It shall conform to the following requirement:—

(i) Total sugars expressed as Sucrose ... Not less than 10.0 percent

### **Regulation 5.7.6: GUR OR JAGGERY**

**1. GUR OR JAGGERY** means the product obtained by boiling or processing juice pressed out of sugarcane or extracted from palmyra palm, date palm or coconut palm. It shall be free from substances deleterious to health and shall conform to the following analytical standards, on dry weight basis :-

Total sugars expressed as invert sugar -	Not less than 90 percent and sucrose not less than 60 percent
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Extraneous matter	Not more than 2 per cent. insoluble in water
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Total ash Not more than 6 per cent.

Ash insoluble in hydrochloric acid (HCL) Not more than 0.5 per cent.

Gur or jaggery other than that of the liquid or semi liquid variety shall not contain more than 10% moisture.

The product may contain food additives permitted in these regulations including **Appendix A**.

Sodium bicarbonate, if used for clarification purposes, shall be of food grade quality.

### **Regulation 5.7.7: DEXTROSE**

**1. DEXTROSE** is a white or light cream granular powder, odourless and having a sweet taste.

When heated with potassium cupritartrate solution it shall produce a copious precipitate of cuprous oxide. It shall conform to the following standards:-

Sulphated ash... ....Not more than 0.1 per cent on dry basis.

Acidity..... 5.0 gm. dissolved in 50 ml. of freshly boiled and cooled water requires for neutralisation not more than 0.20 ml. of N/10 sodium hydroxide to phenolphthalein indicator.

Glucose ..... Not less than 99.0 per cent on dry basis.

The product may contain food additives permitted in these regulations including **Appendix A**.

### **Regulation 5.7.8: GOLDEN SYRUP**

**1. GOLDEN SYRUP** means the syrup obtained by inversion of sugar. It shall be golden yellow in colour, pleasant in taste and free from any

crystallisation.

It shall conform to the following standards:-

Moisture	Not more than 25.0 per cent by weight.
Total ash	Not more than 2.5 per cent by weight.
Total sugar as invert sugar	Not less than 72.0 percent by weight.

The product may contain food additives permitted in these regulations including **Appendix A**.

Sodium bicarbonate, if used, for clarification purposes, shall be of Food Grade Quality.

#### **Regulation 5.7.9: SYNTHETIC SYRUP or SHARBAT**

**1. SYNTHETIC SYRUP or SHARBAT** means the syrup obtained by blending syrup made from sugar, dextrose or liquid glucose.

It may also contain fruit juice and other ingredients appropriate to the product. It shall be free from burnt or objectionable taints, flavours, artificial sweetening agents, extraneous matter and crystallization. It may contain citric acid, permitted colours, permitted preservatives and permitted flavouring agents. It shall also conform to the following standards namely:-

Total soluble solids	Not less than 65 per cent by weight
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#### **Regulation 5.7.10: SACCHARIN SODIUM**

**1. SACCHARIN SODIUM** commonly known as soluble Saccharin having an empirical formula as  $C_7 H_4 NNaO_3S \cdot 2H_2O$  and molecular weight as 241.2 shall be the material which is soluble at 20<sup>0</sup> C in 1.5 parts of water and 50 parts of alcohol (95 per cent); and shall contain not less than 98.0 per cent and not more than the equivalent of 100.5 per cent of  $C_7 H_4 O_3 NSNa$  calculated with reference to the substance dried to constant weight at 105<sup>0</sup> C, assay being carried out as presented in Indian Pharmacopoeia. It shall not contain more than 2 p.p.m. of arsenic and 10



p.p.m. of lead. The melting point of Saccharin isolated from the material as per Indian Pharmacopoeia method shall be between 226<sup>0</sup> C and 230<sup>0</sup> C. The loss on drying of the material at 105<sup>0</sup> C shall not be less than 12.0 per cent and not more than 16.0 per cent of its weight.

The material shall satisfy the tests of identification and shall conform to the limit tests for free acid or alkali, ammonium compounds and parasulpha moylbenzoate as mentioned in the Indian Pharmacopoeia.

### **Regulation 5.7.11: DRIED GLUCOSE SYRUP**

**1. DRIED GLUCOSE SYRUP** means the material in the form of coarse or fine, white to creamish white powder, sweet to taste, bland in flavour and somewhat hygroscopic. It shall be free from fermentation, evidence of mould growth, dirt or other extraneous matter or added sweetening or flavouring agent.

It shall also not contain any added natural or coaltar food colour. It shall conform to the following standards:-

Total solid contents	Not less than 93.0 per cent by weight.
Reducing sugar content	Not less than 20.0 per cent by weight.
Sulphated ash	Not more than 1.0 per cent by weight.

The product may contain food additives permitted in these regulations including **Appendix A**.

### **Regulation 5.7.12: ASPARTYL PHENYL ALANINA METHYL ESTER**

**1. Aspartyl Phenyl Alanina Methyl Ester** commonly known as Aspartame, having empirical formula as C<sub>14</sub> H<sub>18</sub> N<sub>2</sub> O<sub>5</sub> and molecular weight as 294.31 shall be the material which is slightly soluble in water and Methanole. It shall contain not less than 98 per cent and not more than 102 per cent of Aspartame on dried basis. It shall not contain more than 3 ppm of Arsenic and 10 ppm of Lead.

The loss on drying of the material at 105<sup>0</sup> C for 4 hours shall not be more than 4.3 per cent of its weight. The sulphate ash shall not be more than 0.2 per cent. It shall not contain more than 1 per cent of diketo-piperazine.

### **Regulation 5.7.13: Acesulfame Potassium**

**1. Acesulfame Potassium** commonly known as Acesulfame-K, having empirical formula  $C_4H_4KNO_4S$ , molecular weight as 201.24 shall be the material which is odourless, white crystalline powder having intensely sweet taste and is very slightly soluble in ethanol but freely soluble in water. It shall contain not less than 99 per cent and not more than 101 per cent of Acesulfame-K on dried basis. It shall not contain more than 3 ppm. Flouride. Heavy metals content shall not be more than 10 ppm. The loss on drying of material at 105 degree centigrade for two hours shall not be more than 1 percent of its weight.

### **Regulation 5.7.14: Sucralose**

#### **1. Sucralose:**

**Chemical name** – 1, 6-Dichloro-1, 6-Dideoxy- $\beta$ -D-Fructofuranosyl-4-Chloro-4-Deoxy- $\alpha$ -D-galactopyranoside;

**Synonyms** -4, 1 `6'-Trichlorogalactosucrose; INS 955

**Chemical formula** -  $C_{12}H_{19}Cl_3O_8$

**Molecular weight**- 397.64

It shall be white to off-white, odourless, crystalline powder, having a sweet taste. It shall be freely soluble in water, in methanol and in alcohol and slightly soluble in ethyl acetate. It shall contain not less than 98.0% and not more than 102.0% of  $C_{12}H_{19}Cl_3O_8$  calculated on anhydrous basis. It shall not contain more than 3PPM of Arsenic (as AS) and 10PPM or heavy metals (as Pb). It shall not contain more than 0.1% of methanol. Residue on ignition shall not be more than 0.7% and water not more than 0.2%.

### **Part 5.8: SALT, SPICES, CONDIMENTS AND RELATED PRODUCTS**

Note: (1) The extraneous matter wherever prescribed, shall be classified as follows:

- a. Organic extraneous matter such as chaff, stems, straw
- b. Inorganic extraneous matter such as dust, dirt, stones and lumpsof earth.

(2) Of the permitted extraneous matters in items 5.8.1, 5.8.3, 5.8.4, 5.8.5, 5.8.8, 5.8.9, 5.8.10, 5.8.11, 5.8.12, 5.8.14, 5.8.15, 5.8.16, 5.8.17 and 5.8.18 the inorganic extraneous matter shall not

exceed 2 percent by weight

**Regulation 5.8.1: Caraway (Siahjira):**

- 1. (Siahjira) whole** means the mericarps of nearly mature fruit of *Carum carvi* L. The fruits are split into two mericarps by thrashing after drying. It shall have characteristic flavour and shall be free from extraneous flavour and mustiness. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. It shall be free from attack by *Sclerotinia* mushrooms. It shall be free from added colouring matter and other harmful substances.

It shall conform to the following standards:-

(i)	Extraneous matter	Not more than 1.0 percent by weight
(ii)	Moisture	Not more than 13.0 percent by weight
(iii)	Total ash on dry basis	Not more than 8.0 percent by weight
(iv)	Ash insoluble in dilute HCL on dry basis.	Not more than 1.5 percent by weight
(v)	Volatile oil content on dry basis	Not less than 2.5 percent by (v/w).
(vi)	Insect damaged matter	Not more than 1.0 percent by weight

Blond Caraway (*Carum carvi*) whole is slightly larger and its colour is paler.

- 2. Caraway Black (Siahjira) Whole** means the dried seeds of *Carum bulbocastanum*. It shall conform to the following standards.

(i)	Extraneous matter	Not more than 1.0 percent by weight
(ii)	Moisture	Not more than 12.0 percent by weight
(iii)	Total ash on dry basis	Not more than 9.0 percent by weight

(iv)	Ash insoluble in dilute HCL on dry basis.	Not more than 2.0 percent by weight
v)	Volatile oil content on dry basis	Not less than 1.5 percent by (v/w)
(vi)	Insect damaged matter	Not more than 1.0 percent by weight

1. **Caraway (Siahjira) powder** means the powder obtained by grinding the dried mature fruit of *Carum Carvi* L. without addition of any other matter. It may be in the form of small pieces of seeds or in finely ground form. It shall have characteristic flavour and shall be free from extraneous flavour and mustiness. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The powder shall be free from added colouring matter and other harmful substances.

It shall conform to the following standards:-

(i)	Moisture	Not more than 12.0 percent by weight
(ii)	Total ash on dry basis	Not more than 8.0 percent by weight
(iii)	Ash insoluble in dilute HCL on dry basis	Not more than 1.5 percent by weight
(iv)	Volatile oil content on dry basis	
	Black	Not less than 2.25 percent by v/w
	Blond	Not less than 1.33 percent by v/w

### Regulation 5.8.2: Cardamom (Elaichi)

1. **Cardamom (Chhoti Elaichi) Whole** means the dried capsules of nearly ripe fruits of *Elettaria cardamomum* L. Maton Var. *Minuscula* Burkill. The capsules may be light green to brown or pale cream to white when bleached with sulphur dioxide. It shall have characteristic flavour free from any foreign odour, mustiness or rancidity. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. Thrip marks alone should not lead to the conclusion that the capsules have been infested with

insects. The product shall be free from added colouring matter and other harmful substances.

It shall conform to the following standards:

(i)	Extraneous matter	Not more than 1.0 percent by weight
(ii)	Empty and malformed capsules by count	Not more than 3.0 percent by count
(iii)	Immature and shrivelled capsules	Not more than 3.0 percent by weight
(iv)	Moisture	Not more than 13.0 percent by weight
(v)	Total ash on dry basis	Not more than 9.5 percent by weight
(vi)	Volatile oil content on dry basis	Not less than 3.5 percent by v/w
(vii)	Insect damaged matter	Not more than 1.0 percent by weight

**2. Cardamom (Chhoti Elaichi) seeds** means the decorticated seeds separated from the dried capsules of nearly ripe fruits of *Elettaria Cardamomum* L. Maton var *miniscula* Burkill. The seeds shall have characteristic flavour free from foreign odour, mustiness or rancidity. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The product shall be free from added colouring matter and any other harmful substances.

It shall conform to the following standards:-

(i)	Extraneous matter	Not more than 2.0 percent by weight
(ii)	Light seeds	Not more than 3.0 percent by weight
(iii)	Moisture	Not more than 13.0 percent by weight

(iv)	Total ash on dry basis	Not more than 9.5 percent by weight
(v)	Volatile oil content on dry basis	Not less than 3.5 percent by v/w
(vi)	Insect damaged matter	Not more than 1.0 percent by weight

**Explanation :-** Light seeds mean seeds that are brown or red in colour and broken immature and shrivelled seeds.

**3. Cardamom (Chhoti Elaichi) powder** means the powder obtained by grinding dried seeds of *Elettaria Cardamomum* L. Maton var *miniscula* Burkill without addition of any other substance. It may be in the form of small pieces of seeds or in finely ground form. It shall have characteristic flavour free from foreign odour, mustiness or rancidity. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The powder shall be free from added colouring matter and other harmful substances.

It shall conform to the following standards:-

(i)	Moisture	Not more than 11.0 percent by weight
(ii)	Total ash on dry basis	Not more than 8.0 percent by weight
(iii)	Ash insoluble in dilute HCL on dry basis.	Not more than 3.0 percent by weight
(iv)	Volatile oil content on dry basis	Not less than 3.0 percent by v/w.

**4. Large Cardamom (Badi Elaichi) whole** means the dried nearly ripe fruit (capsule) of *Amomum subulatum* Roxb. The capsule shall have characteristic flavour free from foreign odour, mustiness and rancidity. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The product shall be free from added colouring matter and any harmful substance.

It shall conform to the following standards:-

(i)	Extraneous matter	Not more than 1.0 percent by weight
(ii)	Empty and malformed capsules by count	Not more than 2.0 percent by count
(iii)	Immature and shrivelled capsules	Not more than 2.0 percent by weight
(iv)	Moisture	Not more than 12.0 percent by weight
(v)	Ash insoluble in dilute HCL on dry basis.	Not more than 2.0 percent by weight
(vi)	Total ash on dry basis	Not more than 8.0 percent by weight
(vii)	Volatile oil content of seeds on dry basis	Not less than 1.0 percent by v/w.
(viii)	Insect damaged matter	Not more than 1.0 percent by weight

**5. Large Cardamom (Badi Elaichi) seeds** means the seeds obtained by decortication of capsules of *Amomum subulatum* Roxb. It shall have characteristic flavour free from foreign odour, mustiness and rancidity. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The product shall be free from added colouring matter and other harmful substances.

It shall conform to the following standards:-

(i)	Extraneous matter	Not more than 2.0 percent by weight
(ii)	Light seeds / Brown / Red seeds	Not more than 3.0 percent by weight
(iii)	Moisture	Not more than 12.0 percent by weight

(iv)	Total ash on dry basis	Not more than 8.0 percent by weight
(v)	Ash insoluble in dilute HCL on dry basis.	Not more than 2.0 percent by weight
(vi)	Volatile oil content on dry basis	Not less than 1.0 percent by v/w
(vii)	Insect damaged matter	Not more than 1.0 percent by weight.

**6. Large Cardamom (Badi Elaichi) powder** means the powder obtained by grinding seeds of *Amomum subulatum* Roxb, without the addition of any other substance. It may be in the form of small pieces of seeds or in finely ground form. The powder shall have characteristic flavour free from off flavour, mustiness and rancidity. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The powder shall be free from added colouring matter and any harmful substance.

It shall conform to the following standards:-

(i)	Moisture	Not more than 11.0 percent by weight
(ii)	Total ash on dry basis	Not more than 8.0 percent by weight
(iii)	Ash insoluble in dilute HCL on dry basis.	Not more than 2.0 percent by weight
(iv)	Volatile oil content on dry basis	Not less than 1.0 percent by weight

### **Regulation 5.8.3: Chillies and Capsicum (Lal Mirchi)**

**1. Chillies and Capsicum (Lal Mirchi) whole** - means the dried ripe fruits or pods of the *Capsicum annum* L & *Capsicum frutescens* L. The pods shall be free from mould, living and dead insects, insect fragments, rodent contamination. The product shall be free from extraneous colouring matter, coating of mineral oil and other harmful substances.



It shall conform to the following standards:-

(i)	Extraneous matter	Not more than 1.0 percent by weight
(ii)	Unripe and marked fruits	Not more than 2.0 percent by weight
(iii)	Broken fruits, seed & fragments	Not more than 5.0 percent by weight
(iv)	Moisture	Not more than 11.0 percent by weight
(v)	Total ash on dry basis	Not more than 8.0 percent by weight
(vi)	Ash insoluble in dilute HCL on dry basis	Not more than 1.3 percent by weight
(vii)	Insect damaged matter	Not more than 1.0 percent by weight

**2. Chillies and Capsicum (Lal Mirchi) powder** means the powder obtained by grinding clean ripe fruits or pods of *Capsicum annum* L and *Capsicum frutescens* L. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The powder shall be dry, free from dirt, extraneous colouring matter, flavouring matter, mineral oil and other harmful substances. The chilli powder may contain any edible vegetable oil to a maximum limit of 2.0 percent by weight under a label declaration for the amount and nature of oil used.

It shall conform to the following standards:-

(i)	Moisture	Not more than 11.0 percent by weight
(ii)	Total ash on dry basis	Not more than 8.0 percent by weight
(iii)	Ash insoluble in dilute HCL on dry basis	Not more than 1.3 percent by weight
(iv)	Crude fibre	Not more than 30.0 percent by weight

(v) Non-volatile ether extract on dry basis	Not less than 12.0 percent by weight
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#### Regulation 5.8.4: Cinnamon (Dalchini)

**1. Cinnamon (Dalchini) whole** means the inner bark of trunks or branches of *Cinnamomum Zeylanicum* Blume. It shall have characteristic odour and flavour and shall be free from foreign flavour and mustiness. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The product shall be free from added colouring matter, foreign vegetable matter and other harmful substances.

It shall conform to the following standards:

(i)	Extraneous matter	Not more than 1.0 percent by weight
(ii)	Moisture	Not more than 12.0 percent by weight
(iii)	Total ash on dry basis	Not more than 7.0 percent by weight
(iv)	Ash insoluble in dilute HCL on dry basis.	Not more than 2.0 percent by weight
(v)	Volatile oil content on dry basis	Not less than 0.7 percent by v/w
(vi)	Insect damaged matter	Not more than 1.0 percent by weight

**2. Cinnamon (Dalchini) powder** means the powder obtained by grinding inner bark of trunk or branches of *Cinnamomum Zeylanicum* Blume. The powder shall be yellowish to reddish brown in colour with characteristic odour and flavour and shall be free from off flavour and mustiness. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The product shall be free from added colouring matter, foreign vegetable matter and other harmful substances.

It shall conform to the following standards:-

(i)	Moisture	Not more than 12.0 percent by weight
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(ii)	Total ash on dry basis	Not more than 7.0 percent by weight
(iii)	Ash insoluble in dilute HCL on dry basis.	Not more than 2.0 percent by weight
(iv)	Volatile oil content on dry basis	Not less than 0.5 percent by weight

### Regulation 5.8.5: Cassia (Taj)

**1. Cassia (Taj) Whole** means the bark of trees of Cinnamomum Cassia (Nees) ex Blume, Cinnamomum aromaticum (Nees) Syn, Cinnamomum burmanii (C.G. Nees) blume and Cinnamomum loureini Nees. The product shall have characteristic odour and flavour and shall be free from off flavour and mustiness. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The product shall be free from added colouring matter, foreign vegetable matter and other harmful substances.

It shall conform to the following standards:-

(i)	Extraneous matter	Not more than 1.0 percent by weight
(ii)	Moisture	Not more than 12.0 percent by weight
(iii)	Total ash on dry basis	Not more than 5.0 percent by weight
(iv)	Ash insoluble in dilute HCL on dry basis	Not more than 1.0 percent by weight
(v)	Volatile oil content on dry basis	Not less than 2.0 percent by v/w.

**2. Cassia (Taj) powder** means the powder obtained by grinding bark of trees of Cinnamomum Cassia (Nees) ex Blume, Cinnamomum aromaticum (Nees) Syn, Cinnamomum burmanii (CG Nees) Blume and Cinnamomum loureini Nees without addition of any other matter. The powder shall have characteristic odour and flavour and shall be free from off flavour and mustiness. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The powder shall be free

from added colouring matter, foreign vegetable matter and other harmful substances.

It shall conform to the following standards:

(i)	Moisture	Not more than 12.0 percent by weight
(ii)	Total ash on dry basis	Not more than 5.0 percent by weight
(iii)	Ash insoluble in dilute HCL on dry basis	Not more than 1.0 percent by v/w
(iv)	Volatile oil content on dry basis	Not less than 1.5 percent by weight

#### **Regulation 5.8.6: Cloves (Laung)**

**1. Cloves (Laung) Whole** means the dried unopened flower buds of *Eugenia Caryophyllus* (C. Sprengel) Bullock and Harrison. It shall be of a reddish brown to blackish brown colour with a strong aromatic odour free from off flavour and mustiness. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. It shall be free from added colouring matter.

It shall conform to the following standards:-

(i)	Extraneous matter	Not more than 1.0 percent by weight
(ii)	Tendrils, Mother Cloves	Not more than 2.0 percent by weight
(iii)	Khokar Cloves	Not more than 2.0 percent by weight
(iv)	Moisture	Not more than 12.0 percent by weight
(v)	Volatile oil content on dry basis	Not less than 17.0 percent by v/w

(vi)	Headless cloves	Not more than 2.0 percent by weight
(vii)	Insect damaged cloves	Not more than 2.0 percent by weight

**Explanation:** (1) Headless Cloves: A Clove consisting of only the receptacle and sepals and which has lost the domed shaped head.

(2) Khoker Cloves: A Clove which has undergone fermentation as a result of incomplete drying as evidenced by its pale brown colour whitish mealy appearance and other wrinkled surface.

(3) Mother Cloves: A fruit in the form of a ovoid brown berry surmounted by four incurved sepals.

**2. Cloves (Laung) powder** means the powder obtained by grinding the dried unopened flower buds of *Eugenia Caryophyllus* (C. Sprengel) Bullock and Harrison without any addition. It shall be of a brown colour with a violet tinge and shall have a strong spicy aromatic odour free from off flavour and mustiness. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. It shall be free from added colouring matter.

It shall conform to the following standards:-

(i)	Moisture	Not more than 10.0 percent by weight
(ii)	Total ash on dry basis	Not more than 7.0 percent by weight
(iii)	Ash insoluble in dilute HCL on dry basis.	Not more than 0.5 percent by weight
(iv)	Volatile oil content on dry basis	Not less than 16.0 percent by v/w
(v)	Crude Fibre	Not more than 13.0 percent by weight

### Regulation 5.8.7: Coriander (Dhania)

**1. Coriander (Dhania) whole** means the dried mature fruits (seeds) of *Coriandrum sativum* L. It shall have characteristic aroma and flavour. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The product shall be free from added colouring matter.

It shall conform to the following standards:-

(i)	Extraneous matter		Not more than 1.0 percent by weight
(ii)	Split fruits		Not more than 10.0 percent by weight
(iii)	Damaged / Discoloured fruits		Not more than 2.0 percent by weight
(iv)	Moisture		Not more than 9.0 percent by weight
(v)	Volatile oil content on dry basis		Not less than 0.1 percent by v/w
(vi)	Total ash on dry basis		Not more than 7.0 percent by weight
(vii)	Ash insoluble in dilute HCL on dry basis.		Not more than 1.5 percent by weight
(viii)	Insect damaged matter		Not more than 1.0 percent by weight

**2. Coriander (Dhania) powder** means the powder obtained by grinding clean, sound, dried mature fruits of *Coriandrum sativum* L. It shall be in the form of rough or fine powder. It shall have typical aroma and shall be free from mustiness. It shall be free from mould, living and dead insects, insect fragments, rodent contamination; the powder shall be free from added colour, starch, bleach or preservative.

It shall conform to the following standards:-

(i)	Moisture	Not more than 9.0 percent by weight
(ii)	Volatile oil content on dry basis	Not less than 0.09 percent by v/w
(iii)	Total ash on dry basis	Not more than 7.0 percent by weight
(iv)	Ash insoluble in dilute HCL on dry basis.	Not more than 1.5 percent by weight

### **Regulation 5.8.8: Cumin (Zeera, Kalonji)**

**1. Cumin (Safed Zeera) whole** means the dried mature fruits of *Cuminum Cyminum* L. It shall have characteristic aromatic flavour free from mustiness. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The product shall be free from added colour and harmful substances.

It shall conform to the following standards:-

(i)	Extraneous matter	Not more than 3.0 percent by weight
(ii)	Broken fruits (Damaged, shrivelled, discoloured and immature seed)	Not more than 5.0 percent by weight
(iii)	Moisture	Not more than 10.0 percent by weight
(iv)	Total ash on dry basis	Not more than 9.5 percent by weight
(v)	Ash insoluble in dilute HCL on dry basis.	Not more than 3.0 percent by weight
(vi)	Non volatile ether extract on dry basis	Not less than 15.0 percent by weight
(vii)	Volatile oil content on dry basis	Not less than 1.5 percent by v/w
(viii)	Proportion of edible	Absent

	seeds other than cumin seeds	
(x)	Insect damaged matter	Not more than 1.0 percent by weight

**2. Cumin (Safed Zeera) powder** means the powder obtained by grinding the dried mature seeds of *Cuminum Cyminum* L. It shall have characteristic aromatic flavour free from mustiness. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The powder shall be free from added colour and harmful substances.

It shall conform to the following standards:-

(i)	Moisture	Not more than 10.0 percent by weight
(ii)	Total ash on dry basis	Not more than 9.5 percent by weight
(iii)	Acid insoluble ash on dry basis	Not more than 1.5 percent by weight
(iv)	Non volatile ether extract on dry basis	Not less than 15.0 percent by weight
(v)	Volatile oil content on dry basis	Not less than 1.3 percent by v/w

**3. Cumin Black (Kalonji) whole** means the seeds of *Nigella sativa* L. It shall have characteristic aromatic flavour free from mustiness. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The product shall be free from added colour and harmful substances.

It shall conform to the following standards:-

(i)	Extraneous matter	Not more than 1.5 percent by weight
(ii)	Broken fruits (Damaged, shriveled, discoloured and immature	Not more than 5.0 percent by weight



	seed)	
(iii)	Moisture	Not more than 10.0 percent by weight
(iv)	Total ash on dry basis	Not more than 8.0 percent by weight
(v)	Ash insoluble in dilute HCL on dry basis	Not more than 1.5 percent by weight
(vi)	Non volatile ether extract on dry basis	Not less than 12.0 percent by weight
(vii)	Volatile oil content on dry basis	Not less than 1.0 percent by v/w
(viii)	Edible seeds other than cumin black	Not more than 2.0 percent by weight
(ix)	Insect damaged matter	Not more than 1.0 percent by weight

**4. Cumin Black (Kalonji) powder** means the powder obtained by grinding the dried seeds of *Nigella sativa* L. It shall have characteristic aromatic flavour free from mustiness. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The powder shall be free from added colour and harmful substances.

It shall conform to the following standards:-

(i)	Moisture	Not more than 10.0 percent by weight
(ii)	Total ash on dry basis	Not more than 7.0 percent by weight
(iii)	Ash insoluble in dilute HCL on dry basis	Not more than 1.5 percent by weight
(iv)	Volatile oil content on dry basis	Not less than 0.9 percent by v/w
(v)	Non volatile ether extract on dry basis (ml/100gm)	Not less than 12.0 percent by weight

### Regulation: 5.8.9: Fennel (Saunf)

**1. Fennel (Saunf) whole** means the dried ripe fruit of *Foeniculum vulgare* P. Miller Var. *Vulgare*. It shall have characteristic flavour free from foreign odour, mustiness and rancidity. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The product shall be free from added colouring matter and any harmful substance.

It shall conform to the following standards:-

(i)	Extraneous matter	Not more than 2.0 percent by weight
(ii)	Defective seeds	Not more than 5.0 percent by weight
(iii)	Moisture	Not more than 12.0 percent by weight
(iv)	Total ash on dry basis	Not more than 10.0 percent by weight
(v)	Ash insoluble in dilute HCL on dry basis.	Not more than 2.0 percent by weight
(vi)	Volatile oil content on dry basis	Not less than 1.0 percent by v/w
(vii)	Edible seeds other than fennel	Absent
(viii)	Insect damaged matter	Not more than 1.0 percent by weight

**2. Fennel (Saunf) powder** means the power obtained by grinding ripe fruits (seeds) of *Foeniculum Vulgare* P. Miller Var *Vulgare*. The powder shall have characteristic aromatic flavour free from off flavour, mustiness and rancidity. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The powder shall be free from added colouring matter and any harmful substance.

It shall conform to the following standards:-

(i)	Moisture	Not more than 12.0 percent by weight
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(ii)	Total ash on dry basis	Not more than 9.0 percent by weight
(iii)	Ash insoluble in dilute HCL on dry basis.	Not more than 2.0 percent by weight
(iv)	Volatile oil content on dry basis	Not less than 1.0 percent by v/w

**Regulation 5.8.10: Fenugreek (Methi)**

**1. Fenugreek (Methi) Whole** means the dried mature seeds of *Trigonella foenum graecum* L. The seeds shall be free from any off flavour, mustiness and rancidity. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The product shall be free from added colour, and other harmful substances.

It shall conform to the following standards:-

(i)	Extraneous matter	Not more than 2.0 percent by weight
(ii)	Moisture	Not more than 10.0 percent by weight
(iii)	Total ash on dry basis	Not more than 5.0 percent by weight
(iv)	Ash insoluble in dilute HCL on dry basis	Not more than 1.5 percent by weight
(v)	Cold water soluble extract on dry basis	Not less than 30.0 percent by weight
(vii)	Edible seeds other than fenugreek	Not more than 2.0 percent by weight
(viii)	Insect damaged matter	Not more than 1.0 percent by weight

**2. Fenugreek (Methi) powder** means the powder obtained by grinding the dried mature seeds of *Trigonella foenum graecum* L. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The powder shall be free from added colour and other harmful substances.

It shall conform to the following standards:-

(i)	Moisture	Not more than 10.0 percent by weight
(ii)	Total ash on dry basis	Not more than 5.0 percent by weight
(iii)	Ash insoluble in dilute HCL on dry basis.	Not more than 1.5 percent by weight
(iv)	Cold water soluble extract on dry basis	Not less than 30.0 percent by weight

**Regulation 5.8.11: Ginger (Sonth, Adrak)**

**1. Ginger (Sonth, Adrak) whole** means the dried rhizome of *Zingiber officinale* Roscoe in pieces irregular in shape and size, pale brown in colour with peel not entirely removed and washed and dried in sun. It may be bleached with lime. It shall have characteristic taste and flavour free from musty odour or rancid or bitter taste. It shall be free from mould, living and dead insects, insect fragments, and rodent contamination. The product shall be free from added colouring matter.

It shall conform to the following standards:-

(i)	Extraneous matter	Not more than 1.0 percent by weight
(ii)	Moisture	Not more than 12.0 percent by weight
(iii)	Total ash on dry basis	
	a) Unbleached	Not more than 8.0 percent by weight
	b) Bleached	Not more than 12.0 percent by weight
(iv)	Calcium as Calcium oxide on dry basis	
	a) Unbleached	Not more than 1.1 percent by weight
	b) Bleached	Not more than 2.5 percent by weight

(v)	Volatile oil content on dry basis	Not less than 1.5 percent by v/w
(vi)	Insect damaged matter	Not more than 1.0 percent by weight

**2. Ginger (Sonth, Adrak) Powder** means the powder obtained by grinding rhizome of *Zingiber officinale* Roscoe. It shall have characteristic taste and flavour free from musty odour or rancid or bitter taste. It shall be free from mould, living and dead insects, insect fragments, and rodent contamination. The powder shall be free from added colouring matter.

It shall conform to the following standards:-

(i)	Moisture	Not more than 12.0 percent by weight
(ii)	Total ash on dry basis a) Unbleached b) Bleached	Not more than 8.0 percent by weight Not more than 12.0 percent by weight
(iii)	Calcium as Calcium oxide on dry basis a) Unbleached b) Bleached	Not more than 1.1 percent by weight Not more than 2.5 percent by weight
(iv)	Volatile oil content on dry basis	Not less than 1.5 percent by v/w
(v)	Water soluble ash on dry basis	Not less than 1.7 percent by weight
(vi)	Acid insoluble ash on dry basis	Not more than 1.0 percent by weight
(vii)	Alcohol (90% v/w) soluble extract on dry basis	Not less than 5.1 percent by weight
(viii)	Cold water soluble extract on dry basis	Not less than 11.4 percent by weight

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**Regulation 5.8.12: Mace (Jaipatri)**

**1. Mace (Jaipatri) whole** means the dried coat or aril of the seed of *Myristica fragrans* Houttuyn. It shall not contain the aril of any other variety of *Myristica nalaabarica* or *Fatua* (Bombay mace) and *Myristica argenea* (Wild mace). It shall have characteristic aromatic flavour free from foreign odour and mustiness. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The product shall be free from added colouring matter.

It shall conform to the following standards:-

(i)	Extraneous matter	Not more than 0.5 percent by weight
(ii)	Moisture	Not more than 10.0 percent by weight
(iii)	Total ash on dry basis	Not more than 4.0 percent by weight
(iv)	Ash insoluble in dilute HCL on dry basis.	Not more than 0.5 percent by weight
(v)	Volatile oil content on dry basis	Not less than 7.5 percent by v/w
(vi)	Insect damaged matter	Not more than 1.0 percent by weight
(vii)	Nutmeg in mace	Not more than 1.0 percent by weight

**2. Mace (Jaipatri) powder** means the powder obtained by grinding dried coat or aril of the seed of *Myristica fragrans* Houttuyn. It shall have characteristic aromatic flavour free from foreign odour and mustiness. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The powder shall be free from added colouring matter.

The powder shall conform to the following requirements:-

(i)	Moisture	Not more than 10.0 percent by weight
(ii)	Total ash on dry basis	Not more than 3.0 percent by weight
(iii)	Ash insoluble in dilute HCL on dry basis	Not more than 0.5 percent by weight
(iv)	Volatile oil content on dry basis	Not less than 5.0 percent by v/w
(v)	Crude fibre	Not more than 10.0 percent by weight
(vi)	Non-volatile ether extract	Not less than 20.0 and not more than 30.0 percent by weight.

**Regulation 5.8.13: Mustard (Rai, Sarson)**

**1. Mustard (Rai, Sarson) whole** means the dried, clean mature seeds of one or more of the plants of *Brassica alba*. (L). Boiss (Safed rai), *Brassica campestris* L.var, *dichotoma* (Kali Sarson), *Brassica Campestris*, L. Var, yellow Sarson, Syn, *Brassica campestris* L, var *glauca* (Pili Sarson), *Brassica, campestris* L. Var. *toria* (Toria), *Barassicajuncea*, (L). *Coss et Czern* (Rai, Lotni) and *Brassica nigra* (L); Koch (Benarasi rai). It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The product shall be free from the seeds of *Argemone Maxicana* L, any other harmful substances and added colouring matter.

It shall conform to the following standards:

(i)	Extraneous matter	Not more than 2.0 percent by weight
(ii)	Damaged or Shrivelled seeds	Not more than 2.0 percent by weight

(iii)	Moisture	Not more than 10.0 percent by weight
(iv)	Total ash on dry basis	Not more than 6.5 percent by weight
(v)	Ash insoluble in dilute HCL on dry basis	Not more than 1.0 percent by weight
(vi)	Non volatile ether extract on dry basis	Not less than 28.0 percent by weight
(vii)	Volatible oil content on dry basis	Not less than 0.3 percent by v/w
(viii)	Insect damaged matter	Not more than 1.0 percent by weight
(ix)	Allyl iso thiocyanate (m/m) on dry basis a) B nigra b) B Juncea	Not less than 1.0 percent by weight Not less than 0.7 percent by weight
(x)	P-hydroxybenzyl iso-thiocyanate (m/m) on dry basis in sinapist alba	Not less than 2.3 percent by weight
(xi)	Argemone seeds	Absent

**2. Mustard (Rai, Sarson) powder** means the powder obtained by grinding dried, clean mature seeds of one or more of the plants of *Brassica alba*. (L). Boiss (Safed rai), *Brassica compestris* L. var, *dischotoma* (Kali Sarson), *Brassica Compestris*, L. Var, (yellow Sarson), Syn, *Brassica compestris* L, var *glauca* (Pili Sarson), *Brassica, compestris* L. Var. *toria* (Toria), *Barassicajuncea*, (L). Coss et Czern (Rai, Lotni) and *Brassica nigra* (L); Koch (Benarasi rai) without addition of any other matter. It shall have characteristic pungent aromatic flavour free from rancidity and mustiness. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The powder shall be free from *Argemone maxicana*. L and other harmful substances. It shall also be free from added colouring matter.

It shall conform to the following standards:



(i)	Moisture	Not more than 7.0 percent by weight
(ii)	Total ash on dry basis	Not more than 6.5 percent by weight
(iii)	Ash insoluble in dilute HCL on dry basis.	Not more than 1.0 percent by weight
(iv)	Non volatile ether extract on dry basis	Not less than 28.0 percent by weight
(v)	Volatile oil content on dry basis	Not less than 0.3 percent by v/w
(vi)	Crude fibre	Not more than 8.0 percent by weight
(vii)	Starch	Not more than 2.5 per cent by weight
(viii)	Test for argemone oil	Negative

#### **Regulation 5.8.14: Nutmeg (Jaiphal)**

**1. Nutmeg (Jaiphal) whole** means the dried seed (kernel) of *Myristica fragrans* Houttuyn. It shall be of greyish brown colour but it may be white if it has been subjected to liming. It shall have characteristic aromatic flavour free from foreign odour and mustiness. It shall be free from mould, living and dead insects, insect fragments, and rodent contamination. The product shall be free from added colouring matter.

It shall conform to the following standards:-

(i)	Extraneous matter	Absent
(ii)	Mace in Nutmeg	Not more than 3.0 percent by weight
(iii)	Moisture	Not more than 10.0 percent by weight
(iv)	Total ash on dry basis	Not more than 3.0 percent by

		weight
(v)	Water insoluble ash on dry basis	Not more than 1.5 percent by weight
(vi)	Ash insoluble in dilute HCL on dry basis.	Not more than 0.5 percent by weight
(vii)	Volatile oil content on dry basis	Not less than 6.5 percent by v/w
(viii)	Calcium content expressed as Calcium Oxide on dry basis	Not more than 0.35 percent by weight

**2. Nutmeg (Jaiphal) powder** means the powder obtained by grinding the dried seeds (kernel) or *Myristica fragrans* Houttuyn. It shall have characteristic aromatic flavour free from foreign odour and mustiness. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The powder shall be free from added colouring matter.

It shall conform to the following standards:-

(i)	Moisture	Not more than 8.0 percent by weight
(ii)	Total ash on dry basis	Not more than 3.0 percent by weight
(iii)	Water insoluble ash on dry basis	Not more than 1.5 percent by weight
(iv)	Ash insoluble in dilute HCL on dry basis	Not more than 0.5 percent by weight
(v)	Volatile oil content on dry basis	Not less than 6.0 percent by v/w
(vi)	Crude Fibre	Not more than 10.0 percent by weight
(vii)	Non volatile ether extract on dry basis	Not less than 25.0 percent by weight

### Regulation 5.8.15: Pepper Black (Kalimirch)

**1. Pepper Black (Kalimirch) whole** means the dried berries of *Piper nigrum* L., brown to black in colour with a wrinkled pericarp. The berries are generally picked before complete ripening and may be brown, grey or black in colour. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The product shall be free from added colour, mineral oil and any other harmful substances.

It shall conform to the following standards:-

(i)	Extraneous matter	Not more than 1.0 percent by weight
(ii)	Light Berries	Not more than 5.0 percent by weight
(iii)	Pinheads or broken berries	Not more than 4.0 percent by weight
(iv)	Bulk Density (gm/litre)	Not less than 490 gm/litre by weight
(v)	Moisture	Not more than 13.0 percent by weight
(vi)	Total ash on dry basis	Not more than 6.0 percent by weight
(vii)	Non volatile ether extract on dry basis	Not less than 6.0 percent by weight
(viii)	Volatile oil content on dry basis	Not less than 2.0 percent by v/w
(ix)	Peperine Content on dry basis	Not less than 4.0 percent by weight
(x)	Insect damaged matter (percent by weight)	Not more than 1.0 percent by weight

#### Explanation:-

- (a) Light Berry means berry that has reached an apparently normal stage of development but the kernel does not exist.

- (b) Pinhead means berry of very small size that has not developed.
- (c) Broken berry means berry that has been separated in two or more parts.

**2. Pepper Black (Kali Mirch) powder** means the powder obtained by grinding dried berries of Piper nigrum L without addition to any other matter. It shall have characteristic aromatic flavour free from foreign odour, mustiness or rancidity. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The powder shall be free from added colouring matter, mineral oil and any other harmful substances.

It shall conform to the following standards:-

(i)	Moisture	Not more than 12.5 percent by weight
(ii)	Total ash on dry basis	Not more than 6.0 percent by weight
(iii)	Ash insoluble in dilute HCL on dry basis	Not more than 1.2 percent by weight
(iv)	Crude Fibre on dry basis	Not more than 17.5 percent by weight
(v)	Non volatile ether extract on dry basis	Not less than 6.0 percent by weight
(vi)	Volatile oil content on dry basis	Not less than 1.75 percent by v/w
(vii)	Peperine Content on dry basis	Not less than 4.0 percent by weight
(viii)	Salmonella absent in	25 gm

**3. Light Black Pepper** means the dried berries of Piper nigrum L. dark brown to dark black in colour. It shall be well dried and free from mould, living and dead insects, insect fragments, rodent contamination.

It shall conform to the following standards:-

(i)	Extraneous matter	Not more than 1.0 percent by weight
(ii)	Other Foreign edible seeds	Not more than 2.0 percent by weight

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**4. Pinheads** shall be wholly derived from the spikes of piper nigrum L. They shall be reasonably dry and free from insects. The colour shall be from dark brown to black. It shall be free from added colouring matter.

It shall conform to the following standards:-

Extraneous matter	Not more than 1.0 percent by weight
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**Regulation 5.8.16: Poppy (Khas Khas)**

**1. Poppy (Khas Khas) whole** means the dried mature seeds of Papaver somniferum L. It may be white or greyish in colour with characteristic flavour free from off flavour, mustiness and rancidity. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The product shall be free from added colouring matter and any other harmful substances.

It shall conform to the following standards:-

(i)	Extraneous matter	Not more than 2.0 percent by weight
(ii)	Moisture	Not more than 11.0 percent by weight
(iii)	Non volatile ether extract on dry basis	Not less than 40.0 percent by weight

**Regulation 5.8.17: Saffron (Kesar)**

**1. Saffron (Kesar)** means the dried stigmas or tops of styles of Crocus Sativus Linnaeus. It shall be dark red in colour with a slightly bitter and pungent flavour, free from foreign odour and mustiness. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The product shall be free from added colouring matter.

It shall conform to the following standards:-

(i)	Extraneous matter	Not more than 1.0 percent by weight
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(ii)	Floral waste	Not more than 10.0 percent by weight
(iii)	Moisture and volatile matter at 103 ± °C	Not more than 12.0 percent by weight
(iv)	Total ash on dry basis	Not more than 8.0 percent by weight
(v)	Ash insoluble in dilute HCL on dry basis	Not more than 1.5 percent by weight
(vi)	Solubility in cold water on dry weight Basis	Not more than 65.0 percent by weight
(vii)	Bitterness expressed as direct reading of absorbance of picrocrocine at about 257 nm on dry basis	Not less than 30.0 percent by weight
(viii)	Safranal expressed as direct reading of absorbance of 330 nm on dry basis	Not less than 20.0 percent by weight and not more than 50.0 percent by weight
(ix)	Colouring strength expressed as direct reading of absorbance of 440 nm on dry basis	Not less than 80.0 percent by weight
(x)	Total Nitrogen on dry basis	Not more than 2.0 percent by weight
(xi)	Crude Fibre on dry basis	Not more than 6.0 percent by weight

**Explanation:-** Floral waste means yellow filaments that are unattached and separated pollens, stamens, parts of ovaries and other parts of flowers of *Crocus sativus* Linnaeus.

**2. Saffron (Kesar) powder** means the powder obtained by crushing dried stigmas of *Crocus Sativus* Linnaeus. It shall be dark red in colour with a slightly bitter and pungent flavour, free from foreign odour and mustiness.

It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The powder shall be free from added colouring matter.

It shall conform to the following standards:-

(i)	Moisture and volatile matter	Not more than 10.0 percent by weight
(ii)	Total ash on dry basis	Not more than 8.0 percent by weight
(iii)	Acid insoluble ash on dry basis	Not more than 1.5 percent by weight
(iv)	Solubility in cold water on dry weight basis	Not more than 65.0 percent by weight
(v)	Bitterness expressed as direct reading of absorbance of picrocrocine at about 257 nm on Dry basis	Not less than 30.0 percent by weight
(vi)	Safranal expressed as direct reading of absorbance of 330 nm on dry basis	Not less than 20.0 percent by weight and not more than 50.0 percent by weight
(vii)	Colouring strength expressed as direct reading of absorbance of 440 nm on dry basis	Not less than 80.0 percent by weight
(viii)	Total Nitrogen on dry basis	Not more than 3.0 percent by weight
(ix)	Crude Fibre on dry basis	Not more than 6.0 percent by weight

### Regulation 5.8.18: Turmeric (Haldi)

**1. Turmeric (Haldi) whole** means the primary or secondary rhizomes commercially called bulbs or fingers of *Curcuma Longa* L. The rhizomes shall be cured by soaking them in boiling water and then drying them to avoid regeneration. The rhizome be in natural state or machine polished. The product shall have characteristic odour and flavour and shall be free from mustiness or other foreign flavours. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The product shall be free from Lead Chromate added starch and any other extraneous colouring matter.

It shall conform to the following standards:-

(i)	Extraneous matter	Not more than 1.0 percent by weight
(ii)	Defective Rhizomes	Not more than 5.0 percent by weight

(iii)	Moisture	Not more than 12.0 percent by weight
(iv)	Insect damaged matter	Not more than 1.0 percent by weight
(v)	Test for lead chromate	Negative

**Explanation :-** Defective rhizomes consist of shrivelled fingers and or bulbs internally damaged, hollow or porous rhizomes scorched by boiling and other types of damaged rhizomes.

**2. Turmeric (Haldi) powder** means the powder obtained by grinding dried rhizomes or bulbous roots of *Curcuma Longa* L. The powder shall have characteristic odour and flavour and shall be free from mustiness or other foreign odour. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The powder shall be free from any added colouring matter including Lead Chromate and morphologically extraneous matter including foreign starch.

It shall conform to the following standards:-

(i)	Moisture	Not more than 10.0 percent by weight
(ii)	Total ash on dry basis	Not more than 9.0 percent by weight
(iii)	Ash insoluble in dil. HCl on dry basis	Not more than 1.5 percent by weight
(iv)	Colouring power expressed as curcuminoid content on dry basis	Not less than 2.0 percent by weight
(v)	Total Starch	Not more than 60.0 percent by weight
(vi)	Test for lead chromate	Negative

**Regulation 5.8.19: CURRY POWDER**

**1. CURRY POWDER** means the powder obtained from grinding clean,



dried and sound spices belonging to the group of aromatic herbs and seeds such as black pepper, cinnamon, cloves, coriander, cardamom, chillies, cumin seeds, fenugreek, garlic, ginger, mustard, poppy seeds, turmeric, mace, nutmeg, curry leaves, white pepper, saffron and aniseeds. The material may contain added starch and edible common salt. The proportion of spices used in the preparation of curry powder shall be not less than 85.0 per cent by weight. The powder shall be free from dirt, mould growth and insect infestation. It shall be free from any added colouring matter and preservatives other than edible common salt.

The curry powder shall also conform to the following standards:-

Moisture	Not more than 14.0 percent by weight
Volatile oil	Not less than 0.25 percent (v/w) on dry basis
Non-volatile ether extract	Not less than 7.5 per cent by weight on dry basis.
Edible common salt	Not more than 5.0 per cent by weight on dry basis
Ash insoluble in dilute HCL	Not more than 2.0 per cent by weight on dry basis.
Crude Fibre	Not more than 15.0 percent by weight on dry basis
Lead	Not more than 10.0 p.p.m on dry basis

### **Regulation 5.8.20: MIXED MASALA**

**1. MIXED MASALA (WHOLE)** means a mixture of clean, dried and sound aromatic herbs and spices. It may also contain dried vegetables and/or fruits, oilseeds, garlic, ginger, poppy seeds and curry leaves. It shall be free from added colouring matter. It shall be free from mould growth and insect infestation. The proportion of extraneous matter shall not exceed five per cent by weight, out of which the proportion of organic matter including foreign edible seeds and inorganic matter shall not exceed three per cent and two per cent respectively.

### **Regulation 5.8.21: Aniseed (Saunf)**

**1. Aniseed (Saunf) whole** means the dried and mature fruit of *Pimpinella anisum* L. It shall have characteristic aromatic flavour and shall be free from mustiness. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The product shall be free from added colouring matter and harmful substances.

It shall conform to the following standards:-

(i)	Extraneous matter	Not more than 2.0 percent by weight
(ii)	Shrivelled, immature, damaged / insect damaged / broken fruit	Not more than 5.0 percent by weight
(iii)	Moisture	Not more than 12.0 percent by weight
(iv)	Total ash on dry basis	Not more than 9.0 percent by weight
(v)	Ash insoluble in dilute HCL on dry basis	Not more than 1.5 percent by weight
(vi)	Volatile oil content on dry basis	Not less than 1.0 percent by v/w
(vii)	Insect damaged matter	Not more than 1.0 percent by weight
(viii)	Foreign edible seeds	Not more than 2.0 percent by weight

### **Regulation 5.8.22: Ajowan (Bishops seed)**

**1. Ajowan (Bishops seed)** means the dried ripe fruits (seeds) of *Trachyspermum ammi*. L Sprague. It shall have characteristic aromatic flavour and shall be free from mustiness. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The product shall be free from added colouring matter and any other harmful substances.

It shall conform to the following standards:-

(i)	Moisture	Not more than 11.0 percent by weight
(ii)	Extraneous matter	Not more than 2.0 percent by weight
(iii)	Shrivelled / Damaged / insect damaged / broken fruit	Not more than 2.0 percent by weight
(iv)	Volatile oil content on dry basis	Not less than 1.5 percent v/w

### **Regulation 5.8.23: Dried Mango Slices**

**1. Dried Mango Slices**--Means the dried wholesome, edible part of raw mango fruit with or without the outer skin. It shall be free from fungus, moulds and insect infestation, rodent contamination, added colouring, flavouring matter. It shall also be free from deleterious substances injurious to health. It shall not contain any preservative except edible common salt which may be added to the extent of 5 per cent by weight on dry basis. It shall have characteristic taste and flavour. The proportion of extraneous substance shall not exceed 4 per cent by weight out of which inorganic matter shall not exceed 2 per cent by weight.

It shall also conform to the following standards, namely :-

Moisture                      Not more than 12 per cent by weight.

Damaged slices              Not more than 5 per cent by weight.

Seed Coatings                Not more than 6 per cent by weight.

Explanation:

(i) Seed coatings shall be exterior covering of the seed.

- (ii) Damaged slices mean the slices that are eaten by weevils or other insects and includes slices internally damaged by fungus, moisture or heating.

### **Regulation: 5.8.24 Dried Mango Powder (Amchur)**

**1. Dried Mango Powder (Amchur)**--Means the powder obtained by grinding clean and dried mango slices having characteristic taste and flavour. It shall be free from musty odour and objectionable flavour, rodent contamination, mould, fungus and insect infestation, extraneous matter and added colouring, flavouring matter. It shall also be free from deleterious substances injurious to health. It shall not contain any preservative except edible common salt which may be added to the extent of 5 per cent by weight on dry basis.

It shall also conform to the following standards, namely:-

- |                                   |  |            |
|-----------------------------------|--|------------|
| (a) Moisture                      | Not more than 12 per cent by weight.                                     |            |
| (b) Total ash<br>basis)           | Not more than 6 per cent<br>by weight                                    | (salt free |
| (c) Ash insoluble in<br>by weight | Not more than 1.5 per cent   | dilute HCl |
| (d) Crude fibre                   | Not more than 6 per cent by weight.                                      |            |
| (e) Acidity ash anhydrous<br>acid | Not less than 12 per cent and<br>not more than 26 per cent by<br>weight. | tartaric   |

### **Regulation 5.8.25: Pepper White**

**1. Pepper White whole** means the dried berries of *Piper nigrum* L. from which the outer pericarp is removed with or without preliminary soaking in water and subsequent drying, if necessary. The berries shall be light brown to white in colour with a smooth surface. The berries on grinding shall have characteristic aromatic flavour and shall be free from mustiness. It shall be free from mould, living and dead insects, insect

fragments, rodent contamination. The product shall be free from added colouring matter and any other harmful substances.

It shall conform to the following standards:-

(i)	Extraneous matter	Not more than 0.8 percent by weight
(ii)	Broken Berries	Not more than 3.0 percent by weight
(iii)	Black berries	Not more than 5.0 percent by weight
(iv)	Bulk Density (gm/litre)	Not less than 600 percent by weight
(v)	Moisture	Not more than 13.0 percent by weight
(vi)	Total ash on dry basis	Not more than 3.5 percent by weight
(vii)	Non Volatile ether extract on dry basis	Not less than 6.5 percent by weight
(viii)	Volatile oil content on dry basis	Not less than 1.0 percent by v/w
(ix)	Peperine Content on dry basis	Not less than 4.0 percent by weight
(x)	Insect damaged matter	Not more than 1.0 percent by weight

**Explanation:-** (a) Broken berries means berry that has been separated in two or more parts.

(b) Black Berry means berry of dark colour generally consisting of black pepper berry whose pericarp has not been fully removed.

**2. Pepper White powder** means the powder obtained by grinding dried berries of *Piper nigrum* L. from which the outer pericarp is removed and to which no foreign matter is added. It shall have characteristic aromatic flavour and shall be free from mustiness. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The powder shall be free from added colouring matter and any other harmful substances.

It shall conform to the following standards:-

(i)	Moisture	Not more than 13.0 percent by weight
(ii)	Total ash on dry basis	Not more than 3.5 percent by weight
(iii)	Ash insoluble in dilute HCL on dry basis	Not more than 0.3 percent by weight
(iv)	Crude fibre on dry basis	Not more than 6.5 percent by weight
(v)	Non Volatile ether extract on dry basis	Not less than 6.5 percent by weight
(vi)	Volatile oil content on dry basis	Not less than 0.7 percent by v/w
(vii)	Peperine Content on dry basis	Not less than 4.0 percent by weight

#### **Regulation 5.8.26: Garlic (Lahsun)**

**1. Dried (Dehydrated) Garlic (Lahsun)** means the product obtained by drying by any suitable method which ensures characteristics of fresh garlic on rehydration the cloves of *Allium sativum* L. without bleaching or precooking. It shall be white to pale cream in colour, free from scorched, toasted and baked particles. It may be whole, sliced, quarters, pieces, flakes, kibbled, granules or powdered. The product on rehydration shall have characteristic pungent of odour of garlic, free from off odour, mustiness fermentation and rancidity. It shall be free from mould, living and dead insects, insect fragments, rodent contamination and fungal infection. The products shall be free from added colouring matter and any other harmful substances. It shall be free from stalks, peels, stems, and extraneous matter. When in powdered form, it shall be free flowing and free from agglomerates.

The products may contain food additives permitted in Appendix - A and it shall conform to the following standards, namely:-

(i)	Extraneous matter	Not more than 0.5
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		percent
(ii)	Moisture a. In case of powdered Garlic  b. other than powdered Garlic	Not more than 5.0 percent by weight  Not more than 8.0 percent by weight
(iii)	Total ash on dry basis	Not more than 5.0 percent by dry weight
(iv)	Ash insoluble in dil HCL	Not more than 0.5 percent by weight
(v)	Cold water soluble extract on dry basis	Not less than 70.0 and not more than 90.0 percent by weight
(vi)	Volatile organic sulphur compound on dry basis	Not less than 0.3 percent by weight
(vii)	Peroxidase test	Negative

### **Regulation 5.8.27: Celery**

**1. Celery whole** means the dried ripe fruits (seeds) of *Apium graveoleans* L. It shall be of uniform colour with characteristic aromatic flavour and shall be free from mustiness. It shall be free from mould, living and dead insects, insect fragments, rodent contamination. The product shall be free from added colouring matter and any other harmful substances.

It shall conform to the following standards:-

(i)	Extraneous matter	Not more than 2.0 percent by weight
(ii)	Moisture	Not more than 10.0 percent by weight

### **Regulation 5.8.28: Dehydrated Onion (Sukha Pyaj)**

**1. Dehydrated Onion (Sukha Pyaj)** – means the product obtained by removal of most moisture by any acceptable method which ensures characteristics of fresh onions on rehydration, from sound bulbs of *Allium cepa*.L. free from mould, disease, outer skin, leaves and roots. The

product may be whole or in the form of slices, rings, flakes, pieces, small grits or powder. The product may be white/cream/pink or red in colour, free from stalks, peels, stems and extraneous matters and scorched particles. The finished product shall be free from discolouration or enzymatic reaction. The product on rehydration shall be of characteristic flavour, free from foreign and off flavour, mustiness, fermentation and rancid flavour.

It shall be free from mould, living and dead insects, insect fragments and rodent contamination. The product shall be free from added colouring matter and any other harmful substances. When in powdered form, it shall be free flowing and free from agglomerates.

The products may contain food additives permitted in these regulations including Appendix – A and it shall conform to the following standards, namely:-

Extraneous matter	Not more than 0.5 percent by weight
Moisture: (a) In case of powdered onion	Not more than 5.0 percent by weight
(b) Other than powdered onion	Not more than 8.0 percent by weight
Total Ash on dry basis	Not more than 5.0 percent by weight
Ash insoluble in dil HCL	Not more than 0.5 percent by weight
Peroxidase	Negative

### **Regulation 5.8.29 Asafoetida**

**ASAFOETIDA** (Hing or Hingra) means the oleogumresin obtained from the rhizome and roots of *Ferula alliaces*, *Ferula rubricaulis* and other species of *Ferula*. It shall not contain any colophony resin, galbanum resin, ammoniacum resin or any other foreign resin. Hing shall conform to the following standards, namely:

- (1) Total ash content shall not exceed 15 per cent by weight.
- (2) Ash insoluble in dilute hydrochloric acid shall not exceed 2.5 per cent by weight.
- (3) The alcoholic extract (with 90 per cent alcohol) shall not be less than 12 per cent as estimated by the U.S.P. 1936 method.



(4) Starch shall not exceed 1 per cent by weight.

**Hingra shall conform to the following standards namely:-**

- (1) The total ash content shall not exceed 20 per cent by weight.
- (2) Ash insoluble in dilute hydrochloric acid shall not exceed 8 per cent by weight.
- (3) The alcoholic extract (with 90 per cent alcohol) shall not be less than 50 per cent as estimated by the U.S.P. 1936 method.
- (4) Starch shall not exceed 1 per cent by weight.

Compounded asafoetida or Bandhani Hing is composed of one or more varieties of asafoetida (Irani or Pathani Hing or both) and gum arabic, edible starches or edible cereal flour.

It shall not contain:-

- (a) colophony resin,
- (b) galbanum resin,
- (c) ammoniacum resin,
- (d) any other foreign resin,
- (e) coal tar dyes,
- (f) mineral pigment,
- (g) more than 10 per cent total ash content,
- (h) more than 1.5 per cent ash insoluble in dilute hydrochloric acid,
- (i) less than 5 per cent alcoholic extract, (with 90 per cent of alcohol) as estimated by the U.S.P. 1936 method.

**Regulation 5.8.30 EDIBLE COMMON SALT:**

**1. EDIBLE COMMON SALT** means a crystalline solid, white, pale, pink or light grey in colour free from contamination with clay, grit and other extraneous adulterant and impurities. It shall not contain moisture in excess of six per cent of the weight of the undried sample. The sodium chloride content (as NaCl) and matter soluble in water other than sodium chloride on dry weight basis shall be as specified in columns (2) and (3) of the Table below against the period of validity mentioned in the corresponding entry in column (1) of the said Table. The matter insoluble in water shall not exceed 1.0 per cent by weight on dry weight basis.

Period of Validity	Minimum percentage of sodium chloride content as NaCl (on dry basis)	Maximum Percentage of matter soluble in water other than sodium chloride (on dry basis)
(1)	(2)	(3)
Upto 31-3-1982	94.0	5.0
From 1-4-1982 to 31-3-1983	94.5	4.5
From 1-4-1983 to 31-3-1984	95.0	4.0
From 1-4-1984 to 31-3-1985	95.5	3.5
From 1-4-1985 onwards	96.0	3.0

The product may contain food additives permitted in **Appendix A**. The total matter insoluble in water where an anticaking agent has been added shall not exceed 2.2 percent and sodium chloride content on dry basis shall not be less than 97.0 percent by weight.

**2. IODISED SALT** means a crystalline salt, white or pale, pink or light grey in colour, free from contamination with clay, grit and other extraneous adulterants and impurities. It shall conform to the following standards, namely:-

Moisture	Not more than 6.0 per cent by weight of the undried sample.
Sodium Chloride (NaCl)	Not less than 96.0 per cent by weight on dry basis.
Matter insoluble in water	Not more than 1.0 per cent by weight on dry basis
Matter soluble in water Other than Sodium Chloride	Not more than 3.0 per cent by weight on dry basis
Iodine content at-	
(a) Manufacture level	Not less than 30 parts per million on dry weight basis
(b) Distribution channel including retail level	Not less than 15 part per million on dry weight basis.

The product may contain food additives permitted in **Appendix A**. The total matter insoluble in water where an anticaking agent has been added shall not exceed 2.2 percent and sodium chloride content on dry basis shall not be less than 97.0 percent by weight.

**3. IRON FORTIFIED COMMON SALT** means a crystalline solid, white or pale, pink or light grey in colour, free from visible contamination with clay and other extraneous adulterants and impurities. It shall conform to the following standards namely:-

Moisture	Not more than 5.0% by weight.	
Water insoluble matter	Not more than 1.0% on dry weight basis.	
Chloride content as (NaCl)	Not less than 96.5% by weight on dry weight basis.	
Matter insoluble in HCL	Not more than 0.3% by in weight on dry weight basis, (to be determined by the method specified in IS 253-1970.	dilute
Matter soluble in water other than Nacl	Not more than 2.5% on dry weight basis	
Iron content (as Fe)	850-1100 parts per million.	
Phosphorous as Inorganic (PO <sub>4</sub> )	1500-2000 parts per million.	
Sulphate as (SO <sub>4</sub> )	Not more than 1.1% by weight.	
Magnesium as (Mg) weight	Not more than 0.10% by water soluble	
PH value in 5% Solution in water	2 to 3.5	

The product may contain food additives permitted in **Appendix A**. The total matter insoluble in water where an anticaking agent has been added shall not exceed 2.2 percent on dry weight basis.

**4. POTASSIUM IODATE** means a crystalline powder, white in colour free from impurities. It shall conform to the following standards namely:-

1.	Potassium Iodate (as KIO <sub>3</sub> ) percent by weight	Not less than 99.8
2.	Solubility	Soluble in '30 Parts of water
3.	Iodine (as I) per cent by wt. not more than	0.002
4.	Sulphate (as SO <sub>4</sub> ) per cent by wt. not more than	0.02
5.	Bromate, bromide, chlorate & chloride percent by wt. not more than	0.01
6.	Matter insoluble in water percent by wt. not more than	0.10
7.	Loss on drying percent by wt. not more than	0.1
8.	PH (5 percent solution)	Natural
9.	Heavy metal (as pb) ppm not more than	10
10.	Arsenic (as As) ppm not more than	3
11.	Iron (as Fe) ppm not more than	10

**PART 5.9: BEVERAGES, (Other than Dairy and Fruits & Vegetables based)**

**Regulation 5.9.1: TEA**

**1. TEA** means tea other than Kangra tea obtained by acceptable processes, exclusively from the leaves, buds and tender stems of plant of the *Camellia sinensis* (L) O. Kuntze. It may be in the form of black or oolong tea. The product shall have characteristic flavour free from any off odour, taint and mustiness. It shall be free from living insects, moulds, dead insects, insect fragments and rodent contamination visible to the naked eye (corrected if necessary for abnormal vision). The product shall be free from extraneous matter, added colouring matter and harmful substances:

Provided that the tea may contain "natural flavours" and "natural flavouring substances" which are flavour preparations and single substance respectively, acceptable for human consumption, obtained exclusively by physical processes from materials of plants origin either in their natural state or after processing for human consumption in packaged tea only. Tea containing added flavour shall bear proper label declaration as provided in **Regulation 4.4.4 (23)**. Tea used in the manufacture of flavoured tea shall conform to the standards of tea. The flavoured tea manufacturers shall register themselves with the Tea Board before marketing flavoured tea. Pectinase enzyme can be added up to a level of 0.2% during manufacture as processing aid. The product shall conform to the following requirement in which all the figures given are expressed on the basis of the material oven-dried at  $103\pm 2^{\circ}$  C.

(a)	Total Ash (m/m)	Not less than 4.0 percent and not more than 8.0 percent
(b)	Water Soluble Ash	Not less than 45.0 percent of total ash
(c)	Alkalinity of water soluble ash expressed as KOH (m/m)	Not less than 1.0 percent and not more than 3.0 percent
(d)	Acid-insoluble ash (m/m)	Not more than 1.0 percent
(e)	Water extract (m/m)	Not less than 32.0 percent
(f)	Crude Fibre (m/m)	Not more than 16.5 percent

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

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

Provided further that such tea containing added flavour shall bear proper label declaration as provided in **regulation 4.4.4 (23)**.

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

Provided that if tea is sold or offered for sale without any indication as to whether it is Kangra tea or not, the standards or quality of tea prescribed in Article 1 of Regulation 5.9.1 shall apply.

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

Provided also the tea for domestic market may contain added vanillin, flavour upto a maximum extent of 5% by weight and other flavours upto a maximum extent as indicated in the table below under proper label declaration as provided in in **regulation 4.4.4 (23)**.

	<b>TABLE</b>
Flavours	Per cent by weight (Max.)
Cardamom	2.8
Ginger	1.0
Bergamot	2.0
Lemon	1.6
Cinnamon	2.0
Mixture of above flavours With each other	The level of each individual flavour shall not exceed the quantity given above.

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

a)	Total ash determined on tea dried to constant weight at 100 <sup>o</sup> C	4.5 to 9.0 percent by weight
(b)	Total ash soluble in boiling distilled water	Not less than 34 percent of total ash
(c)	Ash insoluble in dilute hydrochloric acid	Not more than 1.2 percent by weight on dry basis.
(d)	Extract obtained by boiling dried tea (dried to constant weight at 100 <sup>o</sup> C) with	Not less than 23 percent.

	100 parts of distilled water for one hour under reflux	
(e)	Alkalinity of	Not less than 1.0 percent and not more than 2.2 percent expressed as K <sub>2</sub> O on dry basis
(f)	Crude fibre determined on tea dried to constant weight at 100°C	Not more than 18.5 percent

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

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

Provided further that such tea containing added flavour shall bear proper label declaration as provided in **regulation 4.4.4 (23)**.

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

Provided that if tea is sold or offered for sale without any indication as to whether it is Kangra tea or not, the standards or quality of tea prescribed in item **Article 1 of Regulation 5.9.1** shall apply.

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

Provided also the tea for domestic market may contain added vanillin, flavour upto a maximum extent of 5% by weight and other flavours upto a maximum extent as indicated in the table below under proper label declaration as provided in in **regulation 4.4.4 (23)**.

	<b>TABLE</b>
Flavours	Per cent by weight (Max.)
Cardamom	2.8
Ginger	1.0
Bergamot	2.0
Lemon	1.6

Cinnamon	2.0
Mixture of above flavours With each other	The level of each individual flavour shall not exceed the quantity given above.

**3. Green Tea** means the product derived solely and exclusively, and produced by acceptable processes, notably enzyme, inactivation, rolling or comminution and drying, from the leaves, buds and tender stems of varieties of the species *Camellia sinensis* (L) O. Kuntze, known to be suitable for making tea for consumption as a beverage. The product shall have characteristic flavour free from any off odour, taint and mustiness. It shall be free from living or dead insects, moulds, insect fragments and rodent contamination visible to the naked eye (corrected if necessary for abnormal vision). The product shall be free from extraneous matter, added colouring matter and harmful substances;

Provided that the tea may contain "natural flavours" and "natural flavouring substances" which are flavour preparations and single substance respectively, acceptable for human consumption, obtained exclusively by physical processes from material of plants origin either in their natural state or after processing for human consumption in packaged tea only. Tea containing added flavour shall bear proper label declaration as provided in **regulation 4.4.4 (23)**. Tea used in the manufacture of flavoured tea shall conform to the standards of tea. The flavoured tea manufacturers shall register themselves with the Tea Board before marketing flavoured tea. The product shall conform to the following requirements in which all the figures given are expressed on the basis of the material oven-dried at  $103 \pm 2^\circ \text{C}$ .

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



	more than 19.0 percent
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### Regulation 5.9.2: COFFEE

**1. Coffee (green raw or unroasted)** means the dried seeds of *Coffea arabica*, *Coffea liberica*, *Coffea excelsa* or *Coffea canephora* (robusta) with their husks (mesocarp and endocarp) removed.

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

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

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

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

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

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

It shall conform to the following standards:

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

### Regulation 5.9.3: CHICORY

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

It shall conform to the following standards, namely:-

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

### Regulation 5.9.4: COFFEE – CHICORY MIXTURE

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

The percentage of coffee and chicory used shall be marked on the label as provided in **regulation 4.4.4 (1)**

It shall conform to the following standards, namely:—

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

**2. Instant Coffee – Chicory Mixture** means the product manufactured from roasted and ground coffee and roasted and ground chicory. It shall be in sound dry and dust free condition with no rancid or obnoxious flavour. It shall be in the form of a free flowing powder or shall be in the agglomerated (granules) form having the colour, taste and flavour characteristics of coffee chicory powder. It shall be free from any impurities and shall not contain any other added substance. The coffee content in the mixture shall not be less than 51 per cent by mass on dry basis. The percentage of coffee and chicory used shall be marked on the label as provided in **regulation 4.4.4 (1)**

It shall conform to the following standards, namely:—

- i) Moisture Not more than 4.00 per cent.
- ii) Total Ash on dry basis Not more than 10.0 per cent.
- iii) Acid insoluble ash Not more than 0.6 per cent.  
on dry basis
- iv) Caffeine (anhydrous) Not less than 1.4 per cent on dry basis
- v) Solubility in boiling Dissolves readily in 30 seconds water  
with moderate stirring
- vi) Solubility in cold Soluble with moderate water  
at  $16 \pm 2^{\circ}\text{C}$  stirring in 3 minutes.

### **Regulation 5.9.5 Beverages - ALCOHOLIC**

**1. TODDY:** Toddy means the sap from coconut, date, toddy palm tree or any other kind of palm tree which has undergone alcoholic fermentation. It shall be white cloudy in appearance which sediments on storage and shall possess characteristic flavour derived from the sap and fermentation without addition of extraneous alcohol. It shall be free from

added colouring matter, dirt, other foreign matter or any other ingredient injurious to health. It shall also be free from chloral hydrate, paraldehyde, sedative, tranquilizer and artificial sweetener.

It shall also conform to the following standards, namely:-

Alcoholic content- Not less than 5 per cent (v/v.).

Total acid as tartaric acid Not more than 400 grams.  
(expressed in terms of 100  
litres of absolute alcohol

Volatile acid as acetic acid Not more than 100 grams.  
(expressed in terms of 100  
litres of absolute alcohol)

### **Regulation 5.9.6 BEVERAGES NON-ALCOHOLIC - CARBONATED**

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

1. Sugar, liquid glucose, dextrose monohydrate, invert sugar, fructose, honey, fruits and vegetables extractives and permitted flavouring, colouring matter, preservatives, emulsifying and stabilising agents, citric acid, fumaric acid and sorbitol, tartaric acid, phosphoric acid, lactic acid, ascorbic acid, malic acid, edible gums such as guar, karaya, arabic carobean, furcellaran, tragacanth, gum ghatti, edible gelatin, albumin, licorice and its derivatives, salts of sodium, calcium and magnesium, vitamins, Caffeine not exceeding 145 parts per million, Estergum (Glycerol ester of wood resin) not exceeding 100 parts per million, and quinine salts not exceeding 100 parts per million (expressed as quinine sulphate). It may also contain Saccharin Sodium not exceeding 100 ppm or Acesulfame-K not exceeding 300 ppm or Aspartame (methyl ester) not exceeding 700 ppm. or sucralose not exceeding 300 ppm. Provided that the quantity of added sugar shall be declared on the container / bottle and if no sugar is added that also shall be declared on the container/bottle as laid down in labelling **Article 23 and 33 of Regulations 4.4.4** In case of returnable bottles, which are recycled or refilling the declaration of quantity of added sugar and no sugar added may be given on the crown.

**PROVIDED ALSO** that the declaration of 'no sugar added' shall not

be applicable for 'carbonated water (plain soda)'.

**PROVIDED ALSO** that the products which contain aspartame, acesulfame or any other artificial sweetener for which special labeling provisions have been provided under **Article 24 of Regulation 4.4.4** of FSS Act, 2006, shall not be packed, stored, distributed or sold in returnable containers.

It shall conform to the following requirements, namely-

- (1) Total plate count per ml not more than that.....50....
- (2) Coliform count in 100 ml .....0.....
- (3) Yeast and mould count per ml not more than... 2.....

**PROVIDED FURTHER** estergum used in carbonated water shall have the following standards, namely:-

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

*Identification:*

**Solubility**—Insoluble in water, soluble in acetone and in Benzene.

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

**Test for absence of Till oil resin (Sulphur test)**—Pass the test as given below:

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

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

### **Reagents**

**Sodium Formate Solution:** Dissolve 20g of reagent grade sodium formate, NaOOCH, in 100 ml of distilled water.

**Lead Acetate Test Paper:** Commercially available from most chemical supply houses.

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

**Detection Limit:** 50 mg/kg sulphur).

**Drop softening point**—Between 88<sup>0</sup> C and 96<sup>0</sup> C.

**Arsenic**—Not more than 3ppm.

**Lead**—Not more than 10ppm.

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

**Acid value**— Between 3 and 9.

**Hydroxyl number**—Between 15 and 45.

### **Regulation 5.9.7 Mineral water**

**1. Mineral water** means includes all kinds of Mineral Water or Natural mineral water by whatever name it is called and sold.

#### **2. Description and Types of Mineral water.**

(i) *Natural mineral water* is water clearly distinguished from ordinary drinking water because -

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

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

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

- d) it is collected under conditions which guarantee the original microbiological purity and chemical composition of essential components;
- e) it is packaged close to the point of emergence of the source with particular hygienic precautions;
- f) it is not subjected to any treatment other than those permitted by this standard;

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

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

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

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

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

**2. Treatment and handling:—** Treatment permitted includes separation from unstable constituents, such as compounds containing iron,

manganese, sulphur or arsenic, by decantation and/or filtration, if necessary, accelerated by previous aeration.

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

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

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

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

(a) the installations for collection, the pipes and the reservoirs shall be made from materials suited to the water and in such a way as to prevent the introduction of foreign substances into the water,

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

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

(d) The related packaging and labelling requirements are provided in regulation 4.1.2(5) , 4.2.1 and 4.4.5

**3.** All Mineral Water shall conform to the following standards, namely:—

Sl.No.	Characteristic	Requirements
(1)	(2)	(3)
(1)	Colour, Hazen Unit/True Colour Unit	not more than 2
(2)	Odour	Agreeable
(3)	Taste	Agreeable
(4)	Turbidity	Not more than 2 nephelometric
	turbidity unit (NTU)	
(5)	Total Dissolved Solids	150-700 mg/litre



(6)	PH	6.5-8.5
(7)	Nitrates (as NO <sub>3</sub> )	Not more than 50 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 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)	Manganese (as Mn)	Not more than 2.0 mg/litre
(13)	Copper (as Cu)	Not more than 1 mg/litre
(14)	Zinc (as Zn)	Not more than 5 mg/litre
(15)	Fluoride (as F)	Not more than 1 mg/litre
(16)	Barium (as Ba)	Not more than 1.0 mg/litre
(17)	Antimony (as Sb)	Not more than 0.005 mg/litre
(18)	Nickel (as Ni)	Not more than 0.02 mg/litre
(19)	Borate (as B)	Not more than 5 mg/litre
(20)	Surface active agents	Not detectable
(21)	Silver (as Ag)	Not more than 0.01 mg/litre
(22)	Chlorides (as Cl)	Not more than 200 mg/litre
(23)	Sulphate (as SO <sub>4</sub> )	Not more than 200 mg/litre
(24)	Magnesium (as Mg)	Not more than 50 mg/litre
(25)	Calcium (as Ca)	Not more than 100 mg/litre
(26)	Sodium (as Na)	Not more than 150 mg/litre
(27)	Alkalinity (as HCO <sub>3</sub> )	75-400 mg/litre
(28)	Arsenic (as As)	Not more than 0.05 mg/litre
(29)	Cadmium (as Cd)	Not more than 0.003 mg/litre
(30)	Cyanide (as CN)	Absent
(31)	Chromium (as Cr)	Not more than 0.05 mg/litre
(32)	Mercury (as Hg)	Not more than 0.001 mg/litre
(33)	Lead (as Pb)	Not more than 0.01 mg/litre

(34)	Selenium (as Se)	Not more than 0.05 mg/litre
(35)	Poly nuclear aromatic hydrocarbons	Not Detectable

(36)	Polychlorinated biphenyle (PCB)	Not detectable
(37)	Pesticide Residue	below detectable limits
(38)	"Alpha" activity	Not more than 0.1 Bacquerel/ litre (Bq)
(39)	"Beta" activity	Not more than 1 Bacquerel/ litre (Bq)]
(40)	Yeast and mould counts	absent
(41)	Salmonella and Shigella	absent
(42)	E.Coli or thermotolerant Coliforms	absent
	1 x 250 ml	
(43)	Total coliform bacteria	absent
	A x 250 ml	
(44)	Fecal streptococci and Staphylococcus aureus	absent
	1 x 250 ml	
(45)	Pseudomonas aeruginosa	absent
	1 x 250 ml	
(46)	Sulphite-reducing anaerobes	absent
	1 x 50 ml	
(47)	Vibrocholera	absent
	1 x 250 ml	
(48)	V Paraheamolyticus	absent
	1 x 250 ml	

**Regulation 5.9.8 Packaged drinking water (other than Mineral water):**— means water derived from surface water or underground water or sea water which is subjected to hereinunder specified treatments, namely, decantation, filtration, combination of filtration, aerations, filtration with membrane filter depth filter, cartridge filter, activated carbon filtration, de-mineralisation, re-mineralisation, reverse osmosis and packed after disinfecting the water to a level that shall not lead to

any harmful contamination in the drinking water by means of chemical agents or physical methods to reduce the number of micro-organisms to a level beyond scientifically accepted level for food safety or its suitability:

Provided that sea water, before being subjected to the above treatments, shall be subjected to desalination and related processes

The related packaging and labelling requirements are provided in regulation 4.1.2 , 4.2.1 and 4.4.5

It shall conform to the following standards namely:

<b>Sl.No.</b>	<b>Characteristics</b>	<b>Requirements</b>
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
(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 (NTU)
(5)	Total Dissolved Solids	Not more than 500 mg/litre
(6)	PH	6.5-8.5
(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)	Manganese (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	Not more than 0.2 mg/litre
		(as MBAS)
(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 biphenyle (PCB)	Not detectable
(38)	Aluminium (as Al)	Not more than 0.03 mg/litre
(39)	Residual free chlorine	Not more than 0.2 mg/litre
(40)	(i) Pesticide residues considered individually -	Not more than 0.0001 mg/ litre (The analysis shall be conducted by using Internationally established test methods meeting the residue limits specified herein).

	(ii) Total pesticide residue -	Not more than 0.0005 mg/litre. (The analysis shall be conducted by Using Internationally established test methods meeting the residue limits specified herein).
(41)	"Alpha" activity	Not more than 0.1 picocurie/Litre (Bq)
(42)	"Beta" activity	Not more than 1 Bacquerel/Litre (Bq)
(43)	Yeast and mould counts 1 x 250 ml.	Absent
(44)	Salmonella and Shigella 1 x 250 ml	Absent
(45)	E.Coli or thermotolerant bacteria 1 x 250 ml	Absent
(46)	Coliform bacteria 1 x 250 ml	Absent
(47)	Faecal streptococci and Staphylococcus aureus 1 x 250 ml	Absent

(48)	Pseudomonas aeruginosa 1 x 50 ml	Absent
(49)	Sulphide reducing anaerobes	Absent in 1*50 ml
(50)	Vibrio cholera and V. parahaemolyticus 1 x 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.

## **PART 5.10 OTHER FOOD PRODUCT AND INGREDIENTS**

**Regulation 5.10.1 BAKING POWDER:** means a combination capable, under conditions of baking, of yielding carbon dioxide and consists of sodium bicarbonate, and acid-reacting material, starch or other neutral material.

The acid-reacting material of baking powder shall be :-

- (a) tartaric acid or its salts, or both
- (b) acid salts of phosphoric acid, or
- (c) acid compounds of aluminium, or
- (d) any combination of the foregoing.

When tested, baking powder shall yield not less than 10 per cent of its weight of carbon dioxide.

**Regulation 5.10.2 CATECHU (Edible)** shall be the dried aqueous extract prepared from the heart-wood of Acacia Catechu. It shall be free from infestation, sand, earth or other dirt and shall conform to the following standards:

(a) 5 ml. of 1 per cent aqueous solution and 0.1 per cent solution of ferric ammonium sulphate shall give a dark green colour, which on the addition of sodium hydroxide solution shall change to purple.

(b) When dried to constant weight at 100°C, it shall not lose more than 16 per cent of its weight.

(c) Water insoluble residue (dried at 100°C) shall not be more than 25 per cent by weight. Water insoluble matter shall be determined by boiling water.

(d) Alcohol insoluble residue  
in 90 per cent alcohol dried at 100°C      Not more than 30 per cent by weight.

(e) Total ash on dry basis      Not more than 8 per cent by weight.

(f) Ash insoluble in HCl      Not more than 0.5 per cent on dry weight basis.

Provided that in case of Bhatti Katha, the ash insoluble in dilute hydrochloric acid on dry basis shall not be more than 1.5 per cent.

**Regulation 5.10.3 GELATIN** shall be purified product obtained by partial hydrolysis of collagen, derived from the skin, white connective tissues and bones of animals. It shall be colourless or pale yellowish and translucent in the form of sheets, flakes, shreds or coarse to fine powder. It shall have very slight odour and taste but not objectionable which is characteristic and boluillon like. It is stable in air when dry but is subject to microbial decomposition when moist or in soluble. It shall not contain:-

- (a) more than 15 per cent moisture;
- (b) more than 3.0 per cent of total ash;
- (c) more than 1000 parts per million of sulphur dioxide;
- (d) less than 15 per cent of nitrogen, on dry weight basis.
- (e) Gelatin meant for human consumption should be labelled as "Gelatin Food Grade".

**Regulation 5.10.4 SILVER LEAF (Chandi-ka-warq):** food grade-shall be in the form of sheets, free from creases and folds and shall contain not less than 99.9 per cent of silver.

**Regulation 5.10.5 Pan Masala** means the food generally taken as such or in conjunction with Pan, it may contain;-

Betelnut, lime, coconut, catechu, saffron, cardamom, dry fruits, mulethi, sabnermusa, other aromatic herbs and spices, sugar, glycerine, glucose, permitted natural colours, menthol and non prohibited flavours.

It shall be free from added coaltar colouring matter and any other ingredient injurious to health.

It shall also conform to the following standards namely:-

Total ash:- Not more than 8.0 per cent by weight  
(on dry basis)

Ash insoluble in dilute:- Not more than 0.5 per cent Hydrochloric  
acid:- by weight (on dry basis)

## **Part 5.11: Proprietary Food**

### **Regulation 5.11.1**

- 1) Proprietary food means a food has not been standardized under these regulations
- 2) In addition to the provisions including labelling requirements specified under these regulations, the proprietary foods shall also conform to the following requirements, namely:-
  - (i) the name of the food and category under which it falls in these regulations shall be mentioned on the label
  - (ii) the proprietary food product shall comply with all other regulatory provisions specified in these regulations and in Appendices.

## **Part 5.12 IRRADIATION OF FOOD**

**Regulation 5.12.1: Definitions -** For the purpose of this chapter, unless the context otherwise requires:-

- 1) 'Irradiation' means any physical procedure, involving the intentional exposure of food to ionizing radiations.
- 2) 'Irradiation facility' means any facility which is capable of being utilized for treatment of food by irradiation.
- 3) 'Irradiated food' means articles of food subjected to radiation by :-
  - (i) Gamma Rays;
  - (ii) X-rays generated from machine sources operated at or below an energy level of 5 million electron volts; and
  - (iii) Sub-atomic particles, namely, electrons generated from machine sources operated at or below an energy level of 10 million electron volts, to dose levels as specified in Schedule I of the Atomic Energy (Control of Irradiation of Food) Rules 1991.
- 4) 'Operator of irradiation facility' means any person appointed as such by licensee who satisfies the qualifications and requirements as for training specified in Schedule II of the Atomic Energy (Control of Irradiation of Food) Rules, 1991.



**Regulation 5.12.2: Dose of Irradiation:**

- 1) Save as provided in **5.12.2 (2)** no food shall be irradiated.
- 2) No article of food permitted for irradiation specified in column 2 of the Table given below shall receive the dose of irradiation in excess of the quantity specified in column 3 of the said Table at the time of irradiation :-

Sl.No.	Name of Foods	Dose of Irradiation (KGY)		
		Minimum	Maximum	Overall average
1.	Onions	0.03	0.09	0.06
2.	Spices	6	14	10
3.	Potatoes	0.06	0.15	0.10
4.	Rice	0.25	1.0	0.62
5.	Semolina (Sooji or Rawa), Wheat, atta and Maida	0.25	1.0	0.62
6.	Mango	0.25	0.75	0.50
7.	Raisins, Figs and Dried Dates	0.25	0.75	0.50

8.	Ginger, Garlic and Shallots (Small Onions)	0.03	0.15	0.09
9.	Meat and Meat Products including Chicken	2.5	4.0	3.25
10.	Fresh Sea foods	1.0	3.0	2.00
11.	Frozen Sea foods	4.0	6.0	5.00
12.	Dried Sea foods	0.25	1.0	0.62
13.	Pulses	0.25	1.0	0.62

- 3) Routine quantitative dosimetry shall be made during operation and record kept of such measurement as provided under Deptt. of Atomic Energy (Control of Irradiation of Food) Rules 1991.

**Regulation 5.12.3: Requirement for the process of Irradiation:-**

- 1) Approval of facilities - No irradiation facility shall be used for the treatment of food unless such facility
  - (i) has been approved and licensed under the Atomic Energy (Control of Irradiation of Food) Rules, 1991.
  - (ii) complies with the conditions for approval, operation, licence and process control prescribed under the Atomic Energy (Control of Irradiation of Food) Rules 1991.
  - (iii) carries out irradiation in accordance with the provisions of the Atomic Energy (Control of Irradiation of Food) Rules,1991.
  
- 2) Foods once irradiated shall not be re-irradiated unless specifically so permitted by the Licensing Authority for the Irradiation process control purposes.
  
- 3) No Food/irradiated food shall leave the irradiation facility unless it has been irradiated in accordance with the provisions of Deptt. of Atomic Energy (Control of Irradiation of Food) Rules, 1991 and a certificate of irradiation indicating the dose of irradiation and the purpose of irradiation is provided by the competent authority.

**Regulation 5.12.4: Restrictions on Irradiation of Food:**

- 1) The irradiation shall conform to the dose limit and the radiation source to the specific conditions prescribed for each type or category of Food specified for treatment by irradiation, under the Atomic Energy (Control of Irradiation of Food) Rules, 1991.

- 2) Food which has been treated by irradiation shall be identified in such a way as to prevent its being subjected to re-irradiation.
- 3) The irradiation shall be carried out only by personnel having the minimum qualifications and training as prescribed for the purpose under the Atomic Energy (Control of Irradiation of Food) Rules,1991.
- 4) Food once irradiated shall not be re-irradiated unless specifically so permitted under these regulations.

**Regulation 5.12.5: Record of Irradiation of Food:**

Any treatment of Food by irradiation shall be recorded by an officer authorised by the competent authority as specified under the Deptt. of Atomic Energy (Control of Irradiation of Food) Rules, 1991 as follows :-

- (a) Name of the article;
- (b) Licence No.;
- (c) Name, address and other details of Licensee;
- (d) Purpose of Irradiation;
- (e) Source of Irradiation;
- (f) Date of Irradiation;
- (g) Dose of Irradiation;
- (h) Serial Number of Batch;
- (i) The nature, quality of Food to be irradiated and the Batch number;
- (j) Quantity of Food Irradiated;
- (k) Physical appearance of article; before and after irradiation;
- (l) Type of packaging used during the irradiation treatment and for packing the irradiated food;

**Regulation 5.12.6: Standards of Irradiated Food :**

The irradiated foods shall comply with all the provisions of the Food Safety and Standards Act and the regulations made thereunder specifying

standards of such food.

**Regulation 5.12.7: Storage and sale of irradiated food.** Save as otherwise provided in these regulations, no person shall irradiate for sale, store for sale, or transport for sale irradiated food.

**Regulation 5.12.8 Restriction on sale of Irradiated Food.-**

Irradiated food shall be offered for sale only in prepackaged conditions.

## **Chapter 6: Substances added to food**

### **Part 6.1: Food Additives**

#### **Regulations 6.1.1:**

- 1). For the purpose of this regulation “good manufacturing practices (GMP) for use of food additives” means the food additives used under the following conditions namely
- (i) the quantity of the additive added to food shall be limited to the lowest possible level necessary to accomplish its desired effect;
  - (ii) the quantity of the additive becomes a component of food as a result of its uses 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
  - (iii) the additive is prepared and handled in the same way as a food ingredient.

#### **Regulation 6.1.2 Colouring Matter**

- (i) **Unauthorized addition of colouring matter prohibited** – The addition of colouring matter to any article of food except as specifically permitted by these regulations is prohibited.
- (ii) **Natural colouring matters which may be used** – Except as otherwise provided in these regulations including **Appendix A** the following natural colouring principles whether isolated from natural colours or produced synthetically may be used in or upon any article of food.
  - (i) Beta-carotene;

- (ii) Beta-apo 8'- carotenal;
- (iii) Methyl ester of Beta-apo 8' carotenoic acid,
- (iv) Ethyl ester of Beta-apo 8' carotenoic acid,
- (v) Canthaxanthin;
- (vi) Chlorophyll;
- (vii) Riboflavin (Lactoflavin).
- (viii) Caramel.
- (ix) Annatto
- (x) Saffron
- (xi) Curucumin or turmeric

*Explanation* – In the preparation of the solution of annatto colour in oil, any edible vegetable oil listed in **Chapter 5** to these regulations may be used either singly or in combination and the name of the oil or oils used shall be mentioned on the label as provided in **Regulation 4.4.2** herein.

- (iii) **Addition of inorganic colouring matters and pigments prohibited** – Inorganic colouring matters and pigments shall not be added to any article of food unless otherwise provided in **Appendix A and Regulation 6.2.1 of** these Regulations

(iv) **Synthetic food colours which may be used**

No Synthetic food colours or a mixture thereof except the following shall be used in food.

Sl No.	Colour	Common name	Colour index (1956)	Chemical class
1.	Red	Ponceau 4R	16255	Azo
		Carmoisine	14720	Azo
		Erythrosine	45430	Xanthene
2.	Yellow	Tartrazine	19140	Pyrazolone
		Sunset Yellow FCF	15985	Azo
3.	Blue	Indigo Carmine	73015	Indigoid
		Brilliant Blue FCF	42090	Triarylmethane
4.	Green	Fast Green FCF	42053	Triarylmethane

(v) **Use of Lake Colours as colourant in foods**

Aluminium Lake of Sunset Yellow FCF may be used in powdered dry beverages mix (powdered soft drink concentrate) upto a maximum limit of 0.04 percent by weight. The maximum limit of colour content in final beverage for consumption shall not exceed 8.3 ppm and that of aluminium content shall not exceed 4.4 ppm of the final beverage for consumption:

PROVIDED that the powdered dry beverages mix (powdered soft drink concentrate) label shall give clear instruction for reconstitution of product for making final beverage

(vi) **Use of permitted synthetic food colours prohibited** – Use of permitted synthetic food colours in or upon any food other than those enumerated below is prohibited :-

(a) Ice-cream, milk lollies, frozen desserts, flavoured milk, yoghurt, ice-cream mix-powder;

(b) Biscuits including biscuit wafer, pastries, cakes, confectionery, thread candies, sweets, savouries (*dalthoath, mongia, phululab, sago papad, dal biji* only);

(c) Peas, strawberries and cherries in hermetically sealed containers, preserved or processed papaya, canned tomato juice, fruit syrup, fruit squash, fruit crushes, fruit cordial, jellies, jam, marmalade, candied crystallised or glazed fruits;

(d) Non-alcoholic carbonated and non-carbonated ready to serve synthetic beverages including synthetic syrups, *sharbats*, fruit bar, fruit beverages, fruit drinks, synthetic soft-drink concentrates;

(e) Custard powder;

(f) Jelly crystal and ice-candy;

(g) Flavour emulsion and flavour paste for use in carbonated or non-carbonated beverages only under label declaration as provided in these Regulations.

(vii) **Maximum limit of permitted synthetic food colours** – The maximum limit of permitted synthetic food colours or mixture thereof which may be added to any food article enumerated in **Appendix A** of these Regulations shall not exceed 100 parts per million of the final food or beverage for



consumption, except in case of food articles mentioned in clause (c) above where the maximum limit of permitted synthetic food colours shall not exceed 200 parts per million of the final food or beverage for consumption.

(viii) **Colours to be pure** – The colours specified in these Regulations, when used in the preparation of any article of food shall be pure and free from any harmful impurities.

(ix) **Sale of permitted food colours.**

1) No person shall manufacture, sell, stock, distribute or exhibit for sale synthetic food colours or their mixtures or any preparation of such colours for use in or upon food except under a licence.

2) No person shall sell a permitted synthetic food colours for use in or upon food unless its container carries a label stating the following particulars:-

- (i) the words "Food Colours";
- (ii) the chemical and the common or commercial name and colour index of the dye-stuff.

3) No person shall sell a mixture of permitted synthetic food colours for use in or upon food unless its container carries a label stating the following particulars:—

- (i) the words "Food Colour Mixture";
- (ii) the chemical and the common or commercial name and colour index of the dye stuff contained in the mixture.

4) No person shall sell a preparation of permitted synthetic food colours for use in or upon food unless its container carries a label

stating the following particulars:—

- (i) the words "Food Colour Preparation";
- (ii) the name of the various ingredients used in the preparation.

**Regulation 6.1.3 Artificial Sweeteners**

(i) **Restriction on use and sale of artificial Sweeteners**

a. No artificial sweetener shall be added to any article of food' PROVIDED that artificial sweetener may be used in food articles mentioned in the table below in quantities not exceeding the limits shown against them and as per provision contained in these regulations including **Appendix A** and shall bear the label declarations as provided in these Regulations.

<b>TABLE</b>						
Sl. No.	Name of artificial sweetener			Article of food	Maximum limit of	
				Artificial sweetener		
1	2		3	4		
<b>1.</b>	<b>Saccharin Sodium</b>		Carbonated Water	100 ppm		
			Soft Drink Concentrate	*100 ppm		
			Supari	4000 ppm		
			Pan Masala	8000 ppm		
			Pan Flavouring Material	8.0 Per cent		
			Synthetic Syrup for dispenser	450 ppm		
			Sweets (Carbohydrates based and Milk products based) : Halwa, Mysore Pak, Boondi Ladoo, Jalebi, Khoya Burfi, Peda, Gulab Jamun, Rasogolla and similar milk product based sweets sold by any name.	500 ppm		

		Chocolate (White, Milk, Plain, Composite And Filled)	500 ppm
		Sugar based/ Sugar free confectionery	3000 ppm
		Chewing gum /Bubble gum	3000 ppm
<b>2.</b>	<b>Aspartame (methylester)</b>	Carbonated Water	700 ppm
		Soft Drink concentrate	*700 ppm
		Biscuits, Bread, Cakes and Pasteries	2200 ppm
		Sweets (Carbohydrates based and Milk products based) : Halwa, Mysore Pak, Boondi Ladoo, Jalebi, Khoya Burfi, Pedas, Gulab Jamun, Rasogolla and similar milk product based sweets sold by any name	200 ppm
		Jam, Jellies, Marmalades	1000 ppm
		Chocolate (White, Milk, Plain, Composite And Filled)	2000 ppm
		Sugar based/ Sugar free confectionery	10000 ppm
		Chewing gum/ Bubble gum	10000 ppm
		Synthetic Syrup for dispenser	3000 ppm
		Custard powder mix	1000 ppm
		Vegetarian jelly crystals	3000 ppm
<b>3.</b>	<b>Acesulfame Potassium</b>	Carbonated water	300 ppm
		Soft Drink concentrate	*300 ppm
		Biscuits, Bread, Cakes and Pasteries	1000 ppm
		Sweets (Carbohydrates based and Milk products based) : Halwa, Mysore Pak, Boondi Ladoo, Jalabi, Khoya Burfi, Pedas, Gulab Jamun, Rasogolla and similar milk product based sweets sold by any name	500 ppm
		Chocolate (White, Milk, Plain, Composite and Filled)	500 ppm
		Sugar based/ Sugar free confectionery	3500 ppm
		Chewing gum/ Bubble gum	5000 ppm
		Synthetic Syrup for dispenser	1500 ppm

	Ready to serve tea and coffee based Beverages	600 ppm
	Ice lollies / ice candy	800 ppm
	cereal based beverages	500 ppm
	Fruit Nectars	300ppm
	Concentrate for fruit nectars	300 ppm (in final Beverage for consumption)
<b>4. Sucralose</b>	Carbonated Water	300 ppm
	Soft Drink Concentrate	*300 ppm
	Biscuits, Bread, cakes and Pasteries	750 ppm
	Sweets (Carbohydrates based and Milk products based) : Halwa, Mysore Pak, Boondi Ladoo, Jalebi, Khoya Burfi, Pedas, Gulab Jamun, Rasogolla and similar milk product based sweets sold by any name	750 ppm
	Yoghurts	300 ppm
	Sweetened butter milk	300 ppm
	Ice Cream	400 ppm
	Jam, Jellies and marmalades	450 ppm
	Frozen Fruit	150 ppm
	Chutney	800 ppm
	Confectionery	1500 ppm
	Chewing gum	1250 ppm
	Cookies	750 ppm
	Doughnuts / scones / muffins	800 ppm
	Cake mixes	700 ppm
	Ready to serve tea and coffee based Beverages	600 ppm
	Ice lollies / ice candy	800 ppm
	Vegetable juice	250 ppm
	Vegetable nectar	250 ppm
	Concentrates for vegetable juice	1250 ppm
	Concentrate for vegetable nectar	1250 ppm
	Lozenges	1500ppm

**Explanation I:—**Pan flavouring material refers to the flavouring agents permitted for human consumption to be used for pan. It shall be labelled as—

**“Pan Flavouring material”**

**\*Explanation II:—**Maximum limit of artificial sweetener in soft drink concentrate shall be as in reconstituted beverage or in final beverage for consumption. Soft Drink concentrate label shall give clear instruction for reconstitution of products for making final beverage.

Provided where the artificial sweetener(s) is/are used in carbonated water / sweetened aerated water / fruit beverage / carbonated fruit beverage / fruit nectar, the requirement of minimum total soluble solids shall not apply

PROVIDED FURTHER that Saccharin Sodium or Aspartame (Methyl ester) or Acesulfame Potassium or Sucralose may be sold individually as Table Top Sweetener and may contain the following carrier or filler articles with label declaration as provided in these Regulations namely:—

- (i) Dextrose
- (ii) Lactose
- (iii) Maltodextrin
- (iv) Mannitol
- (v) Sucrose
- (vi) Isomalt
- (vii) Citric Acid
- (viii) Calcium silicate
- (ix) Carboxymethyl Cellulose
- (x) Cream of Tartar, IP
- (xi) Cross Carmellose sodium
- (xii) Colloidal silicone dioxide

- (xiii) Glycine
- (xiv) L-leucine
- (xv) Magnesium stearate IP
- (xvi) Purified Talc
- (xvii) Poly vinyl pyrrolidone
- (xviii)Providone
- (xix) Sodium hydrogen carbonate
- (xx) Starch
- (xxi) Tartaric acid.

PROVIDED FURTHER also that where sucralose is marketed as Table Top Sweetener, the concentration of sucralose shall not exceed six mg per hundred mg of tablet or granule.

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

PROVIDED that in case of carbonated water, softdrink concentrate and synthetic syrup for dispenser, wherein use of aspartame and acesulfame potassium have been allowed in the alternative, as per Table under **Regulation 6.1.3 (1)** these artificial sweeteners may be used in combination with one or more alternative if the quantity of each artificial sweetener so used does not exceed the maximum limit specified for that artificial sweetener in column (4) of the said Table as may be worked out on the basis of proportion in which such artificial sweeteners are combined. The products containing mixture of artificial sweeteners shall bear the label as provided in these Regulations.

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

- (iii) No person shall sell table top sweetener except under label declaration as provided in these Regulations.

PROVIDED that aspartame may be marked as a table top sweetener in tablet or granular form in moisture proof packages and the concentration of aspartame shall not exceed 18 mg per 100 mg of tablet or granules.

**Regulation 6.1.4: Preservatives** - “preservative” means a substance which when added to food, is capable of inhibiting, retarding or arresting the process of fermentation, acidification or other decomposition of food.

(i) **Classification of Preservatives.**

Preservatives shall be divided into following classes :

a. Class I preservative shall be :—

- (i) Common salt.
- (ii) Sugar.
- (iii) Dextrose.
- (iv) Glucose Syrup.
- (v) Spices.
- (vi) Vinegar or acetic acid.
- (vii) Honey
- (viii) Edible vegetable oils

Addition of Class I preservatives in any food is not restricted, unless

otherwise provided in the regulations including **Appendix A**.  
PROVIDED that the article of food to which a Class I preservative has been added conforms to the specifications laid down in **Chapter 5**.

b. Class II preservatives shall be :—

- (i) Benzoic acid including salts thereof,
- (ii) Sulphurous acid including salts thereof,
- (iii) Nitrates or Nitrites of Sodium or Potassium in respect of food like ham, pickled meat,
- (iv) Sorbic acid including its sodium, potassium and calcium salts, propionates of calcium or sodium, lactic acid, and acid calcium phosphate.
- (v) Nisin
- (vi) Sodium and calcium propionate.
- (vii) Methyl or propyl Parahydroxy-Benzoate.
- (viii) Propionic acid, including esters or salt thereof,
- (ix) Sodium diacetate, and
- (x) Sodium, potassium and calcium salts of lactic acid.

**(ii) Use of more than one Class II preservative prohibited.**

a. No person shall use in or upon a food more than one Class II preservative:

PROVIDED that where in column (2) of the table given in **Regulation (iii) of 6.1.4** the use of more than one preservative has been allowed in the alternative, those preservatives may, notwithstanding anything contained in **Regulation (iii) of 6.1.4** of these Regulations, be used in combination with one or more alternatives, provided the quantity of each preservative so used does not exceed such number of parts out of those specified for



that preservative in column (3) of the aforesaid table as may be worked out on the basis of the proportion in which such preservatives are combined.

**Illustration.**—In the group of foods specified in Item 6 of the table given in **Regulation (iii) of 6.1.4** of these Regulations, sulphur dioxide or Benzoic acid can be added in the proportion of 40 parts per million or 200 parts per million respectively. If both preservatives are used in combination and the proportion of sulphur dioxide is 20 parts per million, the proportion of Benzoic acid shall not exceed the proportion of 100 parts per million.

(iii) **Use of Class II preservatives restricted.**

The use of Class II preservatives shall be restricted to the following group of foods in concentration not exceeding the proportions given below against each.

Article of food	Preservative	Parts per million
(1)	(2)	(3)
1. Sausages and sausage meat containing raw meat, cereals and condiments	Sulphur dioxide	450
2. Fruit, fruit pulp or juice (not dried) for conversion into jam or crystallised glace or cured fruit or other products :	-do-	
(a) Cherries	Sulphur dioxide	2,000
(b) Strawberries & raspberries	-do-	2,000
(c) Other fruits	-do-	1,000
3. Fruit juice concentrate	-do-	1,500

(1)	(2)	(3)
4. Dried fruits :		
(a) Apricots, peaches, apples, pears and other fruits	-do-	2,000
(b) Raisins and sultanas	-do-	750
5. Other non-alcoholic wines squashes, crushes, fruit syrops, cordials, fruit juices and barley water to be used after dilution].	Sulphur dioxide or Benzoic acid	350  600
6. Jam, marmalade, preserve canned cherry and fruit jelly	Sulphur dioxide or Benzoic acid	40  200
7. Crystallised glace or cured fruit (including candied peel)	Sulphur dioxide	150
8. Fruit and fruit pulp not otherwise specified in the schedule	Sulphur dioxide	350
9. Plantation white sugar, cube sugar, dextrose, gur or jaggery, misri	Sulphur dioxide	70
9-A Khandsari (Sulphur) and Bura.	-do-	150
9-B Refined sugar	-do-	40
10. Com flour and such like starches	-do-	100
11. Com syrup	-do-	450

(1)	(2)	(3)
22. Danish tinned caviar	Benzoic acid	50
23. Dehydrated vegetables	Sulphur dioxide	2,000
24. Tomato puree and paste	Benzoic acid	750
25. Syrups and sharbats	Sulphur dioxide or	350
	Benzoic acid	600
26. Dried ginger	Sulphur dioxide	2,000
27. [*****]		
28. Cheese or processed cheese	Sorbic acid including its sodium, potassium and calcium salts (calculated as sorbic acid)	3,000
	Nisin	12.5
29. (a) flour confectionery	Sorbic acid including Sodium, Potassium and Calcium salts (Calculated as Sorbic acid)	1,500
30. Smoked fish (in wrappers)	Sorbic acid	only wrappers may be impregnated with Sorbic acid
31. Dry mixes of Rasgollas	Sulphur dioxide	100

(1)	(2)	(3)
32. (a) Soups (other than Canned)	Sulphur dioxide	150
(b) Dried soups	Sulphur dioxide	1,500
(c) Dehydrated soup mix when packed in containers other than cans	Sulphur dioxide	1,500
33. Fruits and vegetables, flakes, powder, figs	Sulphur dioxide	600
34. Flour for baked food	Sodium diacetate	2500
	or Propionates or Methyl propyl hydroxy Benzoate	3200
		500
35. Preserved chapaties	Sorbic acid	1500
36. Paneer or Chhana	Sorbic acid and its sodium potassium or calcium salts (calculated as sorbic acid)	2000
	or propionic acid and its sodium or potassium salts (calculated as Propionic acid).	2000
37. Fat Spread	Sorbic acid and its sodium, Potassium and calcium salts (Calculated as sorbic acid)	1000
	or Benzoic acid and its sodium and potassium salts (Calculated as benzoic acid) or both	1000

(1)	(2)	(3)
38. Jam, Jellies Marmalades, preserves, crystallised, glazed or candied fruits including candied peels fruits bars	Sorbic Acid and its Calcium\ sodium\ potassium salts (calculated as sorbic acid)	500
39. Fruit Juice concentrates with preservative for conversion in juices, nectars for ready to serve beverages in bottles\pouches selling through dispenser	-do-	100
40. Fruit juices (tin, bottles or pouches)	-do-	200
41. Nectars, ready-to serve beverages in bottles, pouches or selling through dispensers	-do-	50
42. Prunes	Potassium Sorbate (Calculated as Sorbic acid)	1000

#### (iv) Use of Class II preservatives in mixed foods

In a mixture of two or more foods or groups of foods mentioned against each item in the Table under **Regulation 6.1.4 (iii)** of these Regulations the use of Class II preservative or preservatives shall be restricted to the limit up to which the use of such preservative or preservatives is permitted for the foods or groups of foods contained in such mixture.

**Illustration.**—In the food specified in Item 23 of the table given in **Regulation (iii) of 6.1.4** sulphur dioxide can be added to dehydrated vegetables in the proportion of 2,000 parts per million. If this food is mixed with the food specified in Item 24 given in the said table, that is to say tomato puree and paste, where benzoic acid is permitted to an extent of 250 p.p.m., then in the mixture containing equal parts of these two

foods, the proportion of Sulphur dioxide and Benzoic acid, shall be 1,000 p.p.m. and 125 p.p.m. respectively.

(v) **Restriction on use of nitrate and nitrite.**

No nitrate or nitrite shall be added to any infant food.

(vi) **Use of Natamycin for surface treatment of cheese (hard).**

Natamycin may be used for surface treatment of cheese (hard) under label declaration as specified in these Regulations, subject to the following conditions, namely :-

- a. Maximum level of application of Natamycin shall not exceed  $2\text{mg/dm}^3$
- b. The penetration depth of Natamycin in cheese (hard) shall not exceed 2mm.
- c. The maximum residue level of Natamycin in the finished cheese (hard) shall not exceed  $1\text{mg/dm}^3$

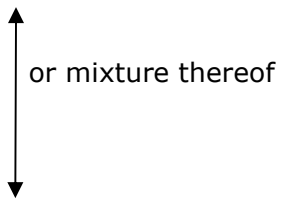
**Regulation 6.1.5: ANTI-OXIDANTS,**

(i) "anti-oxidant" means a substance which when added to food retards or prevents oxidative deterioration of food and does not include sugar, cereal, oils, flours, herbs and spices;

(ii) **Restriction on use of anti-oxidants.**

No antioxidant other than lecithin, ascorbic acid and tocopherol shall be added to any food unless otherwise provided in **regulation (ii) of 6.1.5 including appendices** of these Regulations.

PROVIDED that the following anti-oxidants, not exceeding in concentration mentioned against each, may be added to edible oils and fats except ghee and butter, namely :-

1	Ethyl Gallate	 or mixture thereof	0.01 percent
2	Propyl gallate		
3	Octyl gallate		
4	Dodecyl gallate		
5	Ascorbyl palmitate		0.02 percent
6	Butylated hydroxyanisole (BHA)		0.02 percent
7	Citric Acid		0.01 percent
8	Tartaric acid		0.01 percent
9	Gallic acid		0.01 percent
10	Resin Guaiace		0.05 percent
11	Tertiary Butyl Hydro Quinone (TBHQ)		0.02 percent

PROVIDED that dry mixes of Rassgollas and vadas may contain Butylated hydroxyanisole (BHA) not exceeding 0.02 per cent calculated on the basis of fat content:

PROVIDED FURTHER that anti-oxidants permitted in **Regulation (ii) of 6.1.5** of these Regulations may be used in permitted flavouring agents in concentration not exceeding 0.01 per cent.

PROVIDED FURTHER that wherever Butylated hydroxyanisole (BHA) is used in conjunction with the anti-oxidants mentioned at item Nos. 1 to 4 of the preceding proviso, the quantity of the mixture shall not exceed the limit of 0.02 per cent:

PROVIDED FURTHER that Ghee and Butter may contain Butylated



hydroxyanisole (BHA) in a concentration not exceeding 0.02 per cent.

PROVIDED FURTHER that fat spread may contain Butylated hydroxyanisole (BHA) or Tertiary butyl hydro quinone (TBHQ) in a concentration not exceeding 0.02 per cent by weight on fat basis.

PROVIDED FURTHER that ready-to-eat dry breakfast cereals may contain Butylated Hydroxanisole (BHA) not exceeding 0.005 percent (50ppm).

PROVIDED FURTHER that in ready to drink infant milk substitute, lecithin and ascrobyl palmitate may be used upto maximum limit of 0.5 gm./100ml. and 1mg./ 100ml. respectively.

PROVIDED FURTHER that chewing gum/ bubble gum may contain Butylated hydroxyanisol (BHA) not exceeding 250 ppm.

- (iii) **Use of anti-oxidants in Vitamin D Preparation** - Vitamin D preparation may contain anti-oxidants prescribed in **Regulation (ii) of 6.1.5** of these Regulations not exceeding 0.08 per cent.

**Regulation 6.1.6: Emulsifying and Stabilising agents**

- (i) Emulsifying agents' and "stabilising agents" means substances which when added to food, are capable of facilitating a uniform dispersion of oils and fats in aqueous media or vice versa, and/or stabilising such emulsions and include the agents specified in these Regulations and Appendices and agents mentioned below:

Agar, alginic acid, calcium and sodium alginates, carrageen, edible gums (such as guar, karaya, arabic, carobean, furcellaran, tragacanth, gum ghatti), dextrin, sorbitol, pectin, sodium and calcium pectate, sodium citrate, sodium phosphates, sodium tartrate, calcium lactate, lecithin, albumen, gelatin, quillaia, modified starches, hydrolysed proteins, monoglycerides or diglycerides of fatty acids, synthetic lecithin, propyleneglycol stearate, propyleneglycol alginate, methyl ethyl cellulose, methyl cellulose, sodium carboxy-methyl cellulose, stearyl tartaric acid, esters of monoglycerides and diglycerides of fatty acids monostearin sodium sulphoacetate, sorbitan esters of fatty acids or in combination poly-oxy-ethylene sorbitan, monostearate] sodium stearyl 1-2-lactylate and calcium stearyl 1-2 lactylate Polyglycerol Esters of fatty acids and polyglycerol Ester of interesterified Ricinoleic acid and Brominated vegetable oils Glycerol esters of wood resins (Ester Gum)

**(ii) Restriction on use of emulsifying and stabilizing agents**

- No emulsifying or stabilising agents shall be used in any food, except where the use of emulsifying or stabilising agent is specifically permitted :

PROVIDED that the following emulsifying or stabilising agents shall not be used in milk and cream, namely :

Monoglycerides or diglycerides of fatty acids, synthetic lecithin, propyl-ene glycol stearate, propyleneglycol alginate, methyl ethyl cellulose, methyl cellulose, sodium carboxymethyl cellulose, stearyl tartaric acid, esters of monoglycerides and diglycerides of fatty

acids, monostearin sodium sulphoacetate, sorbitan esters of fatty acids or in combination

PROVIDED FURTHER that Polyglycerol esters of fatty acids and Polyglycerol ester of interesterified Ricinoleic acid may be used in bakery products and in chocolate to the extent of 0.2 per cent by weight.

PROVIDED that Diacetyl Tartaric acid esters of Mono and Diglycerides may be used in Bread and Cakes.

- (iii) **Use of starch phosphate** - Starch phosphate, a gum arabic substitute, may be used in syrup, ice-cream powder, salad dressing and pudding to a maximum extent of 0.5 per cent.
- (iv) **Use of modified starches** — Modified food starches (derivative starches) may be used in baked foods, confectionery, snacks, flavours, dairy products (where use of emulsifier/stabiliser is allowed in **Appendix `A'**) glazes, icings, gravies, sauces, soups, coatings upto a maximum concentration of 0.5 per cent by weight.
- (v) **Use of emulsifying and stabilising agents in flavouring agents** - The emulsifying and stabilising agents may be added to flavouring agents.
- (vi) **Use of emulsifying and stabilising agents in fruit products** - The following emulsifying and stabilising agents may be added to Fruit Products:
  - a. Pectin
  - b. Sodium alginate
  - c. Calcium alginate
  - d. Alginic acid

e. Propylene glycol alginate.

The emulsifying and stabilizing agents as permitted by **Appendix A** of these regulations

(vii) **Use of emulsifying and stabilising agents in frozen desserts** – The emulsifying and stabilizing agents as defined under the Regulations, may be added to frozen desserts.

(viii) Use of Hydroxypropyl Methyl Cellulose in non Dairy Whip Topping – Hydroxypropyl Methyl Cellulose may be used in non-dairy whip toppings upto a maximum level 2.0 per cent.

(ix) **Use of Xanthan gum.**-Xanthan gum may be used in the following products, namely :-

Non dairy whip toppings	-	maximum 0.5% by weight
Bakery mixes	-	maximum 0.5% by weight

### **Regulation 6.1.7: Anticaking Agents**

(i) **Restriction on use of anticaking agents.**

No anticaking agents shall be used in any food except where the use of anticaking agents is specifically permitted.

**PROVIDED THAT** table salt, onion powder, garlic powder, fruit powder and soup powder may contain the following anticaking agents in quantities not exceeding 2.0 per cent either singly or in combination namely :-

a. carbonates of calcium and magnesium.

- b. phosphates of calcium and magnesium .
- c. silicates of calcium, magnesium, aluminium or sodium or silicon dioxide;
- d. myristates, palmitates or stearates of aluminium ammonium, calcium, potassium or sodium.

PROVIDED FURTHER that calcium potassium or sodium ferrocyanide may be used as crystal modifiers and anti-caking agent in common salt, iodised salt and iron fortified salt in quantity not exceeding 10 mg/kg singly or in combination expressed as ferrocyanide.

**Regulation 6.1.8: Antifoaming agents in edible oils and fats.**

- (i) Dimethyl and Polysiloxane, food grade, may be used as an antifoaming agent in edible oils and fats for deep fat frying upto a maximum limit of 10 parts per million.

Provided that mono and diglycerides of fatty acids of edible oil may be used as antifoaming agent in jam, jellies and marmalade

Explanation-For the purpose of this Regulation, "Anti foaming agent" means substance which retards deteriorative changes and foaming height during heating.

**Regulation 6.1.9: Use of release agents in confectionery.**

- (i) Spreadasil silicon spray (Dimethyl Polysiloxane) if used, as release agent in confectionery, shall not exceed 10 ppm of the finished product.

- (ii) **Use of Foods Additives in Food Products.** - The food products

may contain food additives as specified in these Regulations and in **Appendix A.**

- a. Use of food additives in traditional foods.** - The traditional foods namely, - Snacks of Savouries (Fried Products), such as Chiwda, Bhujia, Dalmoth, Kadubale, Kharaboondi, Spiced and fried dals, banana chips and similar fried products sold by any name, Sweets, Carbohydrates based and Milk product based, such as Halwa, Mysore Pak, Boondi Ladoo, Jalebi, Khoya Burfi, Pedra, Gulab Jamun, Rasogolla and similar milk product based sweets sold by any name, Instant Mixes Powders only of Idli mix, dosa mix, puliyogare mix, pongal mix, gulab jameon mix, jalebi mix, vada mix, Rice and Pulses based Papads, Ready-to-Serve Beverages (tea/coffee based only) may contain food additives permitted in these regulations and in Table 2 of **Appendix A.**
- b. Use of additives in Bread, Biscuits** - The food products such as Bread and Biscuits, may contain food additives permitted in these regulations and in Table 1 of **Appendix A.**
- c. Use of Food Additives in different foods.** - The following food products may contain food additives permitted in these regulations and in **Table 3 of Appendix A,** namely:-
- (i) Dairy based drinks, flavoured and or fermented (e.g. chocolate milk) cocoa, eggnog-UHT Sterilised shelf life more than three months), Synthetic soft drink concentrate, mix/fruit based beverage mix, soups, bullions and taste makers, desert jelly, custard powder, jelly crystal, flavour emulsions and flavour paste (for use in carbonated and non-carbonated beverages);

- (ii) Sausages and sausage meat containing raw meat, cereals and condiments.
- (iii) Fruit pulp or juice (not dried) for conversions into jam or crystallized glazed or cured fruit or other product;
- (iv) Corn Flour and such like starches;
- (v) Corn syrup;
- (vi) Canned Rasogolla (the cans shall be internally) lacquered with sulphur dioxide resistant lacquer;
- (vii) Gelatine;
- (viii) Beer;
- (ix) Cider;
- (x) Alcoholic Wines;
- (xi) Non-alcoholic wines;
- (xii) Ready-to-Serve beverage;
- (xiii) Brewed ginger beer;
- (xiv) Coffee Extract;

- (xv) Danish tinned caviar;
- (xvi) Dried ginger;
- (xvii) Flour confectionery;
- (xviii) Smoked fish (in wrappers);
- (xix) Dry mixes of Rasgollas;
- (xx) Preserved Chapaties;
- (xxi) Fat Spread;
- (xxii) Prunes;
- (xxiii) Baked food confections and baked foods;
- (xxiv) Flour for baked food;
- (xxv) Packed Paneer;
- (xxvi) Cakes and Pastries; and
- (xxvii) Prepackaged Coconut Water, Canned Rasogula.

**Regulation 6.1.10: FLAVOURING AGENTS AND RELATED SUBSTANCES**

**1) Flavouring agents.**

Flavouring agents include flavour substances, flavour extracts or flavour



preparations, which are capable of imparting flavouring properties, namely taste or odour or both to food. Flavouring agents may be of following three types :-

- (i) Natural Flavours and Natural Flavouring substances means flavour preparations and single substance respectively, acceptable for human consumption, obtained exclusively by physical processes from vegetables, sometimes animal raw materials, either in their natural state or processed for human consumption.
- (ii) Nature-Identical Flavouring Substances means substances chemically isolated from aromatic raw materials or obtained synthetically; they are chemically identical to substances present in natural products intended for human consumption, either processed or not.
- (iii) Artificial Flavouring Substances means those substances which have not been identified in natural products intended for human consumption either processed or not;

## **2) Use of anti-oxidants, emulsifying and stabilising agents and food preservatives in flavour.**

The flavouring agents may contain permitted anti-oxidants, emulsifying and stabilising agents and food preservatives.

## **3) Restriction on use of flavouring agents :-**

The use of the following flavouring agents are prohibited in any article of food, namely :-

- (i) Coumarin and dihydrocoumarin;
- (ii) Tonkabean (Dipteryl adorat);
- (iii)  $\beta$ -asarone and cinamyl anthracilate”.

- (iv) Estragole
- (v) Ethyl Methyl Ketone
- (vi) Ethyl-3-Phenylglycidate
- (vii) Eugenyl methyl ether
- (viii) Methyl  $\beta$  naphthyl Ketone
- (ix) P.Propylanisole
- (x) Saffrole and Isosaffrole
- (xi) Thujone and Isothujone  $\alpha$  &  $\beta$  thujone.

#### **4) Solvent in flavour.**

Diethylene Glycol and Monoethylether shall not be used as solvent in flavours.

#### **Regulation 6.1.11: Use of Flavour Enhancers**

**1) Monosodium Glutamate** - Monosodium Glutamate may be added to foods as per the provisions contained in **Appendix A**, subject to Good Manufacturing Practices (GMP) level and under proper label declaration as provided in **Regulation 4.4.4 (18)** of these Regulations. It shall not be added to any food for use by infant below twelve months and in the following foods:-

#### **List of foods where Monosodium Glutamate is not allowed**

- (i) Milk and Milk Products including Buttermilk.
- (ii) Fermented and renneted milk products (plain) excluding dairy based drink.
- (iii) Pasteurized cream.
- (iv) Sterilised, UHT, whipping or whipped and reduced fat creams.
- (v) Fats and Oils, Foodgrains, Pulses, Oil seeds and grounded/ powdered foodgrains.
- (vi) Butter and concentrated butter.
- (vii) Fresh fruit.
- (viii) Surface treated fruit.
- (ix) Peeled or cut fruit.

- (x) Fresh vegetables, Surface treated fruit, Peeled or cut fruits.
- (xi) Frozen vegetables.
- (xii) Whole, broken or flaked grains, including rice.
- (xiii) Flours of cereals, pulses and starches.
- (xiv) Pastas and noodles (only dried products).
- (xv) Fresh meat, poultry and game, whole pieces or cuts or comminuted.
- (xvi) Fresh fish and fish products, including mollusks, crustaceans and echinoderms.
- (xvii) Processed fish and fish products, including mollusks, crustaceans and echinoderms.
- (xviii) Fresh eggs, Liquid egg products, Frozen egg products.
- (xix) White and semi-white sugar (sucrose and sacharose, fructose, glucose (dextrose), xylose, sugar solutions and syrups, also (partially) inverted sugars, including molasses, treacle and sugar toppings.
- (xx) Other sugars and syrups (e.g. brown sugar and maple syrup).
- (xxi) Honey
- (xxii) Salt
- (xxiii) Herbs, spices and condiments, seasoning (including salt substitutes) except seasoning for Noodles and Pastas, meat tenderizers, onion salt, garlic salt, oriental seasoning mix, topping to sprinkle on rice, fermented soyabean paste, Yeast.
- (xxiv) Infant food and Infant milk substitute including infant formulae and follow-on formulate.
- (xxv) Foods for young children (weaning foods).
- (xxvi) Natural Minerals water and Packaged Drinking water.
- (xxvii) Concentrates (liquid and solid) for fruit juices.
- (xxviii) Canned or bottled (pasteurized) fruit nectar.
- (xxix) Concentrates (liquid and solid) for fruit juices.
- (xxx) Canned or Bottled (pasteurized) fruit nectar.
- (xxxi) Coffee and coffee substitutes, tea, herbal infusions, and other cereal beverages excluding cocoa.
- (xxxii) Wines.
- (xxxiii) Margarine
- (xxxiv) Fat Spread
- (xxxv) Fruits and Vegetables products except those where Monosodium Glutamate is permitted under **Appendix A** of these Regulations.
- (xxxvi) Carbonated Water
- (xxxvii) Baking Powder
- (xxxviii) Arrowroot
- (xxxix) Sago

- (xl) Plantation Sugar, Jaggery and Bura.
- (xli) Ice-Candies.
- (xlii) Ice cream and Frozen desserts.
- (xliii) Cocoa Butter
- (xliv) Saccharine
- (xlv) Malted Milk Food and Milk based foods
- (xlvi) Bread
- (xlvii) Vinegar
- (xlviii) Sugar Confectionery, Toffee, Lozenges.
- (xlix) Chocolate
- (l) Pan Masala
- (li) Alcoholic Beverages.

**Regulation 6.1.12 : SEQUESTERING AND BUFFERING AGENTS  
(ACIDS, BASES, AND SALTS)**

- (i) "sequestering agents" means substances which prevent adverse effect of metals catalysing the oxidative break-down of foods forming chelates; thus inhibiting decolourisation, off taste and rancidity;
- (ii) "Buffering agents" means materials used to counter acidic and alkaline changes during storage or processing steps, thus improving the flavour and increasing the stability of foods;

**1) Restrictions on the use of sequestering and buffering agents.**

Unless otherwise provided in these regulations the sequestering and buffering agents specified in column (1) of the Table below, may be used in the groups of food specified in the corresponding entry in column (2) of the said Table, in concentration not exceeding the proportions specified in the corresponding entry in column (3) of the said Table :

TABLE		
Name of sequestering And	Groups of food	Maximum level of use (parts

buffering agents			per Million) (ppm) (mg./kg.)
(1)		(2)	(3)
1.	Acetic Acid	(i) Acidulant, buffering and neutralizing agents in beverages soft drinks	Limited by G.M.P.
		(ii) in canned baby foods Salt substituted and dietary food	5,000
2.	Adipic acid	Salt substitute and dietary food	250
3.	Calcium Gluconate	In confections	2,500
4.	Calcium Carbonate	As a neutralizer in number of foods	10,000
5.	Calcium oxide	As a neutralizer in specified dairy product	2,500
6.	Citric acid malic acid	Carbonated beverage and as an acidulant in miscellaneous foods	Limited By G.M.P.
7.	DL Lactic Acid (food grade)	As acidulant in miscellaneous foods	Limited By G.M.P.
8.	L(+) Lactic Acid (food grade)	As acidulant in miscellaneous foods	Limited by GMP
9.	Phosphoric acid	Beverages, soft drinks	600
10.	Polyphosphate containing less than 6 Phosphate moieties	(a) Processed cheese, bread	40,000
		(b) Milk Preparations	4,000
		(c) Cake Mixes	10,000
		(d) Protein foods	4,000
11.	L (+) Tartaric acid	Acidulants	600
12.	Calcium Ethylene, tetra acetate	Disodium, Diamine (i) Emulsions containing refined vegetable oils, eggs, vinegar, salt, sugar and spices; (ii) Salad dressing; (iii) Sandwich spread or fat Spread	50
13.	Fumaric acid	As acidulant in	3000pp

	Miscellaneous foods	m
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**NOTE :-** DL Lactic acid and L(+) Tartaric acid shall not be added to any food meant for children below 12 months (The lactic acid shall also conform to the specification laid down by the Indian Standards Institution.)

**Regulation 6.1.13: Use of Glycerol Esters of Wood Resins (Ester Gum)—**

The maximum limit of glycerol esters of wood resins(ester gum) when used in flavour emulsions, soft drink concentrate and carbonated water shall not exceed 100 P.P.M. of the final beverage for consumption.

**Regulation 6.1.14: Use of Sucrose Acetate Isobutyrate —** The maximum concentration of Sucrose Acetate Isobutyrate when used in non-alcoholic beverages as a clouding agent shall not exceed 300 ppm;

**Regulation 6.1.15: Use of Lactulose Syrup in foods:**

- (i) Lactulose syrup may be used in special milk based infant food formulations, which is to be taken under medical advice upto a maximum level of 0.5 per cent of final food subject to label declaration.
- (ii) Lactulose syrup may be used in bakery products upto 0.5 per cent maximum by weight.

**Regulation 6.1.16: Other substances to be used in Specified limits**

The use of substances specified in column (1) in the food mentioned in column (2) of the Table given below shall not exceed the limit specified in column (3) of the said table, namely :-

**TABLE**

Substances	Food	Maximum level
------------	------	---------------

			of use (ppm) mg/kg
	1	2	3
1.	Ammonium Carbonate	Baked foods confections	5,000
2.	Ammonium bicarbonate	-do-	GMP
3.	Baking powder	Baked foods	GMP
4.	Ammonium Phosphate	Bread	2,500
	Monobasic		
5.	Ammonium persulphate	-do-	2,500
6.	Calcium Phosphate	-do-	2,500
7.	Calcium Carbonate	-do-	5,000

8.	Potassium Bromate and /or	-do-	50
	Potassium Iodate		
9.	Ammonium Chloride	-do-	500
10.	Fungal Alpha-amylase	-do-	100
11.	Sodium Stearoy 1-2	-do-	5,000
	Lactylate of Calcium		
	Stearoy 1-2 Lactylate (Singly or in combination)		
12.	L-Cystein Hydrochloride -do-	Mono	90
13.	Benzoyl Peroxide	Flour for bakery	40
14.	Potassium bromate	-do-	20
15.	Ascorbic acid	-do-	200
16.	Gluconodelta Lactone	Cured meat or meat products	5,000
17.	Chlorine	Flour for bakery	2,000
18.	Ascorbic acid/Iso Ascorbic acid and its salts singly or in combination	Corned beef, Luncheon Meat, Cooked Ham, Chopped Meat, Canned Chicken, Canned Mutton and Goat Meat.	500
19.	Phosphates (Naturally present and added) expressed as P <sub>2</sub> O <sub>5</sub>	Luncheon Meat, Cooked Ham, Chopped Meat.	8000

**Regulation 6.1.17: Carry Over Of Food Additives**

For the purpose of the standards specified in **Chapter 5** the “Carry Over” principle applies to the presence of additives such as colours, flavouring agents, anti-oxidants anti-caking agents, emulsifying and stabilising agents, and preservatives in food, as a result of the use of raw material or other ingredients in which these additives were used. The presence of contaminants is not covered by this purpose.

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

## **Part 6.2: Standards of Additives**

**Regulation 6.2.1 Food Colours:** Standards of various Food Colours with characteristics are specified in the table below:

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### **1 Tartrazine**

Common Name	-tartrazine
Synonyms	-FD and C Yellow No.5, E.E.C. Serial No.E 102, L-Gebb 2, C.I. Food Yelow 4.
Colour of the 0.1 Per cent (M/V) solution in distilled water .	-Yellow
Colour Index Number (1975)	-No 19140
Class	-Monoazo.
Chemical Name	-Trisodium salt of 5-hydroxy-1-p-sulphopheny1-4-(p-sulphophenylazo) Pyrazol-3-carboxylic acid.
Empirical formula	-C <sub>16</sub> H <sub>9</sub> N <sub>4</sub> O <sub>9</sub> S <sub>2</sub> Na <sub>3</sub>
Molecular Weight	-534.37



Solubility -Soluble in water. Sparingly soluble in Ethanol.

General Requirements

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

**TABLE**

Sl. No.	Characteristic	Requirement
1	2	3
1.	Total dye content, corrected for Sample dried at 105±1°C for 2 hours, per cent by mass, Min.	87
2.	Loss on drying at 135°C and Chlorides and Sulphates expressed as sodium salt, percent by mass, Max.	13
3.	Water insoluble matter, percent by mass, Max.	0.2
4.	Combined ether extracts, percent by mass. Max.	0.2
5.	Subsidiary dyes, percent by mass, Max.	1.0
6.	Dye intermediates, percent by mass, Max.	0.5
7.	Lead, mg/kg, Max.	10
8.	Arsenic, mg/kg, Max.	3
9.	Heavy metals, mg/kg, Max.	40

It shall be free from mercury, copper and chromium in any form; aromatic amines, aromatic nitro compounds, aromatic hydrocarbons, and cyanides.;

**2. Sunset yellow**

Common Name -Sunset Yellow  
 Synonyms -FD and C Yellow No.6, Janus Orange S, C.I. Food Yellow 3, -Orange 2, Janune soil, EEC Serial No.E.10  
 Colour of the 0.1 per cent (M/V) solution in distilled water -Orange  
 Colour Index Number (1975)-No 15985  
 Class -Monoazo.  
 Chemical Name -Disodium salt of 1.(4-sulphophenylazo) 2-naphthol-6-sulphonic acid.  
 Empirical formula -C<sub>10</sub>H<sub>10</sub>N<sub>2</sub>O<sub>7</sub>S<sub>2</sub>NA<sub>2</sub>

Molecular Weight	-452.37
Solubility	-Soluble in water. Sparingly soluble in ethanol.
General Requirements	

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

**TABLE**  
**Requirements for Sunset Yellow, FCF**

1.	2.	3.
1.	Total dye content, corrected for Sample dried at 105±1°C for 2 hours, per cent by mass, Min.	87
2.	Loss on drying at 135°C, percent by mass and Chlorides and Sulphates expressed as sodium salt, percent by mass, Max.	13
3.	Water insoluble matter, percent by mass, Max.	0.2
4.	Combined ether extracts, percent by mass. Max.	0.2
5.	Subsidiary dyes, (lower sulphonated dyes including traces of orange II) percent by mass, Max.	3.0
6.	Dye intermediates, percent by mass, Max.	0.5
7.	Lead, mg/kg, Max.	10
8.	Arsenic, mg/kg, Max.	3
9.	Heavy metals, mg/kg, Max.	40

It shall be free from mercury, copper and chromium in any form; aromatic amines, aromatic nitro compounds, aromatic hydrocarbons, and cyanides;

### **3. Erythrosine**

Common Name	-Erythrosine
Synonyms	-FD and C Red No.3 C.I. Food Red 14, LB-Rot-I.
Colour of the 0.1 per cent (M/V) solution in distilled water	-Red

Colour Index Number (1975)	-No 45430
Class	-Xanthene.
Chemical Name	-Disodium or dipotassium salt of 2', 4', 5', 7', tetraiodo-fluorescein,
Empirical formula	-C <sub>20</sub> H <sub>6</sub> O <sub>5</sub> I <sub>4</sub> Na <sub>2</sub>
Molecular Weight	-879.87 (Disodium Salt)
Solubility	-Soluble in water. Soluble in ethanol.

General Requirements

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

**TABLE**

<b>Requirements for Erythrosine</b>		
<b>Sl. No.</b>	<b>Characteristic</b>	<b>Requirement</b>
<b>1.</b>	<b>2.</b>	<b>3.</b>
1.	Total dye content, corrected for Sample dried at 105°±1°C for 2 hours, per cent by mass, Min.	87
2.	Loss on drying at 135°C percent by mass and Chlorides and Sulphates expressed as sodium salt percent by mass, Max.	13
3.	Water insoluble matter, percent by mass, Max.	0.2
4.	Ether extractable matter,(alkaline), percent by mass, Max.	0.2
5.	Inorganic Iodide, percent by mass as sodium iodide, Max.	0.1
6.	Subsidiary colouring matters except fluorescein, percent by mass, Max.	4
7.	Fluorescein, mg/kg, Max.	20
8.	Organic compounds other than colouring matter	0.2
(a)	Tri-iodoresorcinol, percent by mass, Max.	0.2
(b)	2.(2,4-dihydroxy-3,5-di-iodobenzoyl) benzoic acid, percent by mass, Max.	0.2
9.	Lead, mg/kg, Max.	10
10.	Arsenic, mg/kg, Max.	3

11.	Zinc, mg/kg, Max.	50
12.	Heavy metals, mg/kg, Max.	40

It shall be free from mercury, copper and chromium in any form; aromatic amines, aromatic nitro compounds, aromatic hydrocarbons, and cyanides.

#### 4. Indigo carmine

Common Name	-Indigo carmine		
Synonyms	-Indigotine, FD and C Blue No.2, CI Food Blue 1, EEC Serial No. E 132 L-Blue 2		
Colour of the 0.1 per cent (M/V) solution in distilled water	-Blue		
Colour Index Number (1975)	-No 73015		
Class	-Indigoid		
Chemical Name	-Disodium Salt of indigotine-5, 5'-Disulphonic acid.		
Empirical formula	-C <sub>16</sub> H <sub>8</sub> N <sub>2</sub> O <sub>8</sub> S <sub>2</sub> Na <sub>2</sub>		
Molecular Weight	-466.36		
Solubility	-Soluble in water, sparingly	soluble	in
ethanol.			
General Requirements			

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

**TABLE Requirement for Indigo Carmine**

Sl. No.	Characteristic	Requirement
<b>1.</b>	<b>2.</b>	<b>3.</b>
1.	Total dye content, corrected for Sample dried at 105±1°C for 2 hours, per cent by mass, Min.	85
2.	Loss on drying at 135°C, percent by mass and Chlorides and Sulphates expressed as sodium salt, percent by mass, Max.	15
3.	Water insoluble matter, percent by mass, Max.	0.2
4.	Combined ether extracts, percent by mass, Max.	0.2
5.	Subsidiary dyes, percent by mass, Max.	1.0
6.	Isatin Sulphonic acid, percent by mass, Max.	0.5
7.	Lead, mg/kg, Max.	10
8.	Arsenic, mg/kg, Max.	3
9.	Heavy metals, mg/kg, Max.	40

It shall be free from mercury, copper and chromium in any form; aromatic amines, aromatic nitro compounds, aromatic hydrocarbons, and cyanides.

## 5. - $\beta$ -CAROTENE.

$\beta$ -Carotene is obtained as dark violed hexagonal prisms when crystallised from benzene methanol solution; or as red rhombic, almost quardratic plates, from petroleum ether.

Synonyms	- C.I. natural yellow 26.
Colour Index (1956)	- No.75130.
Class	- Carotenoids.
Chemical name	- all trans $\beta$ -Carotene.
Empirical Formula	- C <sub>40</sub> H <sub>56</sub>
Molecular weight	- 536.89
Melting point	- 183°C $\pm$ 1°C

**Solubility.-** Soluble in carbon disulphide, benzene and chloroform, moderately soluble in normal hexane, cyclohexane, ether, petroleum ether and oils; practically insoluble in methanol; insoluble in water.

**Spectrophotometric Requirement.-**The wavelengths of absorption maxima of all trans  $\beta$ -Carotene in cyclohexane (0.2 mg per 100 ml. approximately) and in-1cm cell shall be 456 mu to 484 mu region. There shall be no cis-peak in the 330 mu to 355 mu region.

A solution of B-carotene in chloroform on addition of antimony trichloride solution shall give a dark blue colour having maximum absorption at a wavelength of 590 mu.

**Colour Reaction-** When 2ml. of concentrated sulphuric acid is added to 2m. of 0.2 per cent solution of  $\beta$ -Carotene in chloroform, the acid layer shall turn blue.

The material shall have a minimum purity of 96.0 per cent.

Maximum limit of metallic impurities shall be:-

Arsenic (as As)	3 p.p.m.
Lead (as Pb)	10 p.p.m.
Heavy metal	40 p.p.m.

And shall also meet the following requirements:-

- (i) Subsidiary colouring matter, percent by weight, Max. - 3
- (ii) Sulphated ash, percent of total colouring matters, Max. - 0.1

**6-CHLOROPHYLL:** Chlorophyll, the green pigment of plants, is extracted and widely used as a colouring matter for various food items.

Synonyms-	C.I. Natural Green 3; Lebensmittel Green No.1
Colour	Green.
Colour Index Number-	(1956) - No.75810. (1924) - No.12499.

Class -	Phorbin (dihydrophorbin).
Chemical name-	Chlorophyll a - magnesium complex of 1,3,5,8-tetramethyl 4-ethyl-2-vinyl-9-keto-10- carbomethoxy phorbinphytyl-7-propionate. Chlorophyll b- magnesium complex 1,5,8 trimethyl-3-formyl-4-ethyl-2-vinyl-9-keto-10- carbomethoxyphorbinphytyl-7-propionate.
Empirical formula-	Chlorophyll a - C <sub>55</sub> H <sub>72</sub> O <sub>5</sub> N <sub>4</sub> Mg Chlorophyll b- C <sub>55</sub> H <sub>70</sub> O <sub>6</sub> N <sub>4</sub> Mg
Molecular weight-	Chlorophyll a- 893.54 Chlorophyll b - 907.52

**General-** The material shall be an intensely dark green, aqueous, ethanolic, or oily solution of chlorophyll degradation products. It shall be soluble in ethanol, ether, chloroform and benzene. It shall be insoluble in water.

**Identification test-** A solution of chlorophyll in ethanol shall be blue with deep red fluorescence.

**Brown-phase Reaction-**When green ether or petroleum ether solution of chlorophyll is treated with a small quantity of a 10 per cent solution of potassium hydroxide in methanol, the colour shall become brown quickly returning to green.

**Note.-** This test is applicable only when chlorophyll has not been treated with alkalies.

Maximum limits for metallic impurities shall be:-

Arsenic (as As)	3 ppm
Lead (as Pb)	10 ppm
Copper (as Cu)	30 ppm
Zinc (as Zn)	50 ppm

The material shall also conform to the following requirements:-

CHLOROPHYLL – MAGNESIUM COMPLEX

Sl. No.	Characteristics	Requirements
(1)	(2)	(3)

1.	Total combined phaeophytines and their magnesium complexes, percent by weight, max.	10
2.	Residual solvents, mg/kg, Max. Acetone, methanol, ethanol, propan-2-ol, hexane	50
3.	Dichloromethane	10

**7 Caramel-**Caramel shall be prepared from the food grade carbohydrates or their combinations in the presence of food grade acids, alkalis or salts. It shall be of four

types, namely:-

**Type-I-** Plain Caramel-It shall be prepared by heating carbohydrates with or without acids or alkalis, or their salts. No. ammonium or sulphite compounds are used.

**Type-II-**Caustic sulphite caramel- It shall be prepared by heating carbohydrates with or without acids or alkalis or their salt in the presence of sulphite compounds; no ammonium compounds are used.

**Type - III -** Ammonia Process Caramel- It shall be prepared by heating carbohydrates with or without acids or alkalis or their salts in the presence of ammonium compounds; no sulphites are used.

**Type-IV-** Ammonia Sulphite Caramel- It shall be prepared by heating carbohydrates with or without acids or alkalis or their salts in the presence of both sulphite and ammonium compounds.

### RAW MATERIALS

1. Carbohydrates - Caramel shall be prepared from the following carbohydrates or their mixtures:-

Sucrose, glucose, fructose, invert sugar, lactose, malt syrup, molasses, starch hydrolysates and fractions there of and/or polymer thereof.

2. Acids and alkalis- The acids used are sulphuric acid, phosphoric acid, acetic acid, or citric acid and the alkalis used are sodium, potassium or calcium hydroxide or mixture thereof.

Where the ammonium compounds are used, they are one or more of the following:-

- Ammonium hydroxide
- Ammonium Carbonate and Bicarbonate
- Ammonium phosphate
- Ammonium sulphate
- Ammonium sulphite, Bisulphite, Metasulphite

Where the sulphite compounds are used, they are one or more of the following:-

Sulphurous acid, Potassium, Sodium or ammonium Sulphite or Bisulphite.

It shall be a dark brown to black liquid or solid materials having the characteristic odour of burnt sugar and a pleasant, bitter taste. Its solution, when spread in a thin layer on a glass plate should appear homogeneous, transparent and have reddish-brown colour. It shall be miscible with water. It shall be free from any other extraneous colouring matter. It may contain permitted emulsifying and stabilising agents.

It shall conform to the requirements prescribed in Table 1 below. All requirements shall be on solids basis, except metallic impurities.

**TABLE 1 - ROUTINE TEST REQUIREMENTS FOR CAMEL**

Sl. No.	Characteristic	Type I	Type II	Type III	Type IV
		Plain	Caustic	Ammonia	Sulphite
			Sulphite	Process	Ammonia
(1)	(2)	(3)	(4)	(5)	(6)

1.	Solid content, per cent by mass	62-77	65-72	53-83	40-75
2.	Colour intensity, per cent by mass	0.01-0.12	0.06-0.10	0.08-0.36	0.10-0.60
3.	Ammonical nitrogen	0.01	0.01	0.4	0.5
	per cent by mass, max.				
4.	4-Methylimidazole	-	-	Max.300 mg/kg & Max.200 mg/kg on equivalent colour basis	Max.1000 mg/kg & Max.250 mg/kg on equivalent colour basis
5.	Lead (as Pb), mg/kg, Max.	5	5	5	5
6.	Arsenic(as AS) mg/kg.	3	3	3	3

**Note:** Requirement of ammoniacal nitrogen is based on a product colour having a minimum colour intensity prescribed at Sl. No. (2) proportionately higher values of ammoniacal nitrogen apply for products of higher colour intensity.

### Type Test

The material shall also conform to the requirements prescribed in Table 2 below.  
All requirements shall be on solid basis except metallic impurities.

**TABLE 2 - TYPE TEST REQUIREMENTS FOR CARMEL**

Sl. No.	Characteristic	Type I Plain	Type II Caustic Sulphite	Type III Ammonia process	Type IV Sulphite Ammonia
(1)	(2)	(3)	(4)	(5)	(6)
1.	Total sulphur per cent by mass.	Max.03	1.3-2.5	Max.0.3	1.4-10.0
2.	Sulphur dioxide (as SO <sub>2</sub> )	--	Max. 0.2%	--	Max.0.5%
3.	Total nitrogen, per cent by mass	Max.0.1	Max.0.2	1.3-6.8	0.5-7.5
4.	Heavy metals				



	mg/kg (Max.)	25	25	25	25
5.	2-Acetyl-4-tetrahydroxybutylimidazole (THI)	--	--	Max.40 mg/kg & Max. 25 mg/kg on an equivalent colour basis	--
6.	Mercury (as Hg)				
	mg/kg, Max.	0.1	0.1	0.1	0.1
7.	Copper (as Cu)				
	mg/kg, Max.	20	20	20	20

The material shall be filled in amber coloured glass or high density polythylene containers or any other well closed suitable containers with as little air space as possible. The containers shall be such as to preclude contamination of the contents with metals or other impurities.

#### 8. Annatto

Class	Carotenoids
Code Number	CI (1975) No. 75120' CI (1975) Natural Orange 4 EEC No.E-160 b
Chemical Name	-Annatto extract in oil contains several coloured components, the major single one being bixin which may be present in both Cis and Transforms. Thermal degradation products of bixin may also be present.
Solubility	-Water soluble annatto contains norbixin, the hydrolysis product of bixin, in the form of sodium or potassium salt, as the major colouring principle. Both cis and trans forms may be present.
Chemical Formula	-Bixin $C_{25} H_{30} O_4$ Norbixin $C_{24} H_{28} O_4$
Molecular Weight	-Bixin 394.50 Norbixin 380.48

The material shall be of the following two types:

- (a) Solution in oil for use in butter and other food products, and
- (b) Solution in water for use in cheese and other food products.

## General

The material shall be derived only from the plant *Bixa orellana* L. and shall not contain any extraneous colouring matter. It shall be processed, packed, stored and distributed under hygienic conditions in licensed premises.

### (1) Solution of Annatto Colour in Oil for Use in Butter and Other Food Products:-

Annatto extract in oil, as solution or suspension, is prepared by extraction of the outer coating of seeds with vegetable oils. In the preparation of the solution of annatto colour in oil, only the edible vegetable oils shall be used, either singly or in a mixture.

The solution of annatto colour in oils shall be clear and shall remain so on storage in suitable containers at 15°C except for a slight deposit of stearine or shall be in the form of a suspension. The suspension on dilution with hot oil to bring the bixin content to 0.24 per cent shall be a clear solution.

## Colour

The colour of solution in amyl acetate at a dilution of 1:1000 (m/v) when measured in a Lovibond Tintometer with a 1 cm Cell Spectrophotometrically/Calorimetrically shall be not less than the following:

Yellow units	5.0
Red units	0.4

or be not less than the colour of the following inorganic solution at a liquid depth of one centimeter which may be employed for matching the stated dilution in a plunger type colorimeter using incident light closely approximating the normal day light:

Potassium Bichromate	0.320 g
Cobalt ammonium sulphate	2.02 g
(CoSO <sub>4</sub> (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> 6H <sub>2</sub> O)	
Sulphuric acid, Sp-gr 1.84	2ml
Distilled water	To make solution to one litre

These reagents shall be of the analytical reagent grade. Although the solution retains its tinctorial value for a considerable time, after prolonged storage, its optical clarity shall be examined before use, to ensure that no alteration has taken place.

**Note 1** - Diluted solution of annatto colour in amyl acetate is not stable in colour quality, particularly if exposed to light, and measurement shall be carried out on the diluted solution without undue delay.

### (ii) Solution of Annatto Colour in Water for use in Cheese and Other Food Products:

Water soluble annatto colour is prepared by extraction of the outer coating of the seeds with aqueous alkali (sodium or potassium hydroxide). In the preparation of the solution, potable water shall be used. A little quantity (0.5 to 3 per cent) of alkali may be added.

The solution shall be clear and shall remain so on storage in suitable containers at a temperature of 15°C.

## Colour

The colour of the solution in 0.1 N sodium hydroxide or potassium hydroxide at a

dilution of 1:1000 (m/v) measured in a 1-cm shall be the same as that specified in (i) above.

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

**TABLE**

**Requirement for Annatto**

<b>Sl. No. Characteristic</b>		<b>Requirement</b>
<b>1.</b>	<b>2.</b>	<b>3.</b>
1.	Carotenoid	
	(a) Annatto extract in oil, expressed as bixin, per cent by mass, Min.	0.24
	(b) Water-soluble annatto, expressed as norbixin, per cent by mass, Min.	0.24
2.	Arsenic, mg/kg, Max.	3
3.	Lead, mg/kg, Max.	10
4.	Copper, mg/kg, Max.	30
5.	Heavy metal, mg/kg, Max.	40

**9-RIBOFLAVIN** -- Riboflavin is a yellow to orange-yellow crystalline powder. Melting point about 280°C with decomposition.

Solubility-slightly soluble in water, more soluble in saline solution and in a 10 per cent (w/v) solution of urea, sparingly soluble in alcohol, practically insoluble in chloroform and in solvent ether and soluble in dilute solution of alkali hydroxides.

Synonyms	-Vitamin B2, Lactoflavin and Lactroflavine.
Colour	-Yellow to orange-yellow.
Class	-isoalloxazine.
Chemical name	-6.7-dimethyl-9-(d-1-ribityl)-isoalloxazine
Empirical Formula	-C <sub>17</sub> H <sub>20</sub> N <sub>4</sub> O <sub>6</sub>
Molecular weight	-376.38

**Identification.**-A solution of 1 mg of Riboflavin in 100 ml water is pale greenish yellow in transmitted light, and has an intense yellowish green fluorescence which disappears on the addition of sodium dithionite and mineral acids or alkalies.

Spectrophotometry-Absorption maxima of aqueous solution shall be at 220 to 225, 266, 371 and 444 mu.

Specific Rotation-It shall be determined in a 0.5 per cent w/v solution in a mixture of 1.5 ml of 0.1 N alcoholic solution of potassium hydroxide (free from carbonate) and sufficient freshly boiled and cooled water to produce 10 ml. The specific rotation, when calculated with reference to the substance dried to constant weight in the dark at 105°C, shall be, 122°C.

The material shall have minimum purity of 97.0 per cent.

Maximum limit of metallic impurities shall be:-

Arsenic (as As)	5 p.p.m.
Lead (as Pb)	20 p.p.m.

#### 10. Ponceau 4R

Common Name	-Ponceau 4R		
Synonyms	-Cl Food Red 7, L-Rot No.4, Nouvelle, Cochineal Red A; EEC Serial No.E 124.	Coccine	
Colour of 0.1 per cent (m/v) solution Distilled water.	-Red		
Colour Index Number (1975)	-No. 16255		
Class	-Monoazo		
Chemical Name	-Trisodium salt of 1-(4-sulpho-1-naphthylazo)-naphthol-6, 8-disulphonic acid.		
Empirical Formula	-C <sub>20</sub> H <sub>11</sub> N <sub>2</sub> O <sub>10</sub> S <sub>3</sub> Na <sub>2</sub>		
Molecular Weight	-604.5		
Solubility ethanol.	-Soluble in water. Sparingly	soluble	in

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

**TABLE**  
**Requirements for Ponceau 4R**

Sl. No.	Characteristic	Requirement
1.	2.	3.
1.	Total dye content, corrected for Sample dried at 105±1°C for 2 hours, per cent by mass, Min.	85
2.	Loss on drying at 135°C, percent by mass, Max. and Chlorides and Sulphates expressed as sodium salt, per cent by mass, Max.	18
3.	Water insoluble matter, percent by mass, Max.	0.2

4.	Combined ether extracts, percent by mass. Max.	0.2
5.	Subsidiary dyes, percent by mass, Max.	1.0
6.	Dye intermediates, per cent by mass, Max.	0.5
7.	Lead, mg/kg, Max.	10
8.	Arsenic, mg/kg, Max.	3
9.	Heavy metals, mg/kg, Max.	40

It shall be free from mercury, selenium and chromium in any form; aromatic amines, aromatic nitro compounds, aromatic hydrocarbons, and cyanides.;

### 11-CARMOISINE:

Common name :	Carmoisine.
Synonyms :	Azorubine, C.I. Food Red 3, EEC. Serial No.E 122.
Colour of the 0.1 per cent (w/v) solution in Distilled Water	-Red.
Colour	-Index Number - (1956) No.14720.
Class	-Monoazo
Chemical Name :	Disodium salt of 2-(4-sulpho-1-naphthylazo)-1-hydroxy-naphthalene-4-sulphonic acid.
Empirical Formula :	$C_{20}H_{12}N_2O_7S_2Na_2$
Molecular weight	502. 44

General Requirements: The material shall be free from mercury, selenium and chromium in any form, aromatic amines, aromatic nitro compounds, aromatic hydrocarbons and cyanides.

Carmoisine shall also comply with requirements prescribed in Table below:-

TABLE		
Sl. No.	Characteristic	Requirement
1	2.	3
1.	Total dye content, corrected for Sample dried at $105 \pm 1^\circ\text{C}$ for 2 hours, per cent by mass, Min.	87
2.	Loss on drying at $135^\circ\text{C}$ , percent by mass, Max. and Chlorides	

	and Sulphates expressed as sodium salt, per cent by mass, Max.	13
3.	Water insoluble matter, percent by mass, Max.	0.2
4.	Combined ether extracts, percent by mass. Max.	0.2
5.	Subsidiary dyes, percent by mass, Max.	1.0
6.	Dye intermediates, per cent by mass, Max.	0.5
7.	Lead, mg/kg, Max.	10
8.	Arsenic, mg/kg, Max.	3
9.	Heavy metals, mg/kg, Max.	40;

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## **12-Synthetic Food Colour** - Preparation and Mixtures.

### **Colour Preparation**

A Preparation containing one or more of the permitted synthetic food colours conforming to the prescribed standard alongwith diluents and/or filler materials and meant to be used for imparting colour to food. It may contain permitted preservatives and stabilizers.

The colour preparation would be either in the form of a liquid or powder. Powder preparations shall be reasonably free from lumps and any visible extraneous/foreign matter. Liquid preparations shall be free from sediments.

Only the following diluents or filler materials shall be permitted to be used in colour preparations conforming to the prescribed standards:-

1. Potable water
2. Edible common salt
3. Sugar
4. Dextrose Monohydrate
5. Liquid glucose
6. Sodium sulphate
7. Tartaric acid
8. Glycerine
9. Propylene glycol
10. Acetic acid, dilute
11. Sorbitol
12. Citric acid
13. Sodium carbonate and sodium hydrogen carbonate
14. Lactose
15. Ammonium, sodium and potassium alginates
16. Dextrins
17. Ethyl acetate
18. Starches
19. Diethyl ether

20. Ethanol
21. Glycerol mono, di and tri acetate
22. Edible oils and fats
23. Isopropyl alcohol
24. Bees wax
25. Sodium and ammonium hydroxide
26. Lactic acid
27. Carragenan and gum arabic
28. Gelatin
29. Pectin

### Colour Mixtures

A mixture of two or more permitted synthetic food colour conforming to prescribed standards without diluents and filler material and meant to be used for imparting colour to food.

It may contain permitted preservatives and stabilizers.

General Requirements-For Colour Preparation & Colour Mixture. The total Synthetic dye content, per cent by mass (m/v) in the colour preparation or in the mixture shall be declared on the label of the container. In powder preparations the declared value shall be on moisture free basis and in case of liquid preparations on as in basis. The total dye content shall be within the tolerance limits given below on the declared value:

- |                        |               |
|------------------------|---------------|
| (a) Liquid preparation | +15 per cent  |
|                        | -5 per cent   |
|                        | ±7.5 per cent |
| (b) Solid preparations |               |

The limits of impurities shall be as prescribed in Table below:-

**TABLE**  
**Limits for Impurities**

1.	Water insoluble matter, per cent by mass, Max. (on dry basis), Max.	1.0
2.	Lead, (as Pb), mg/kg, Max.	10
3.	Arsenic, (as As) mg/kg, Max.	3.0
4.	Heavy metals, mg/kg, Max.	40

It shall be free from mercury, copper and chromium in any form; aromatic amines, aromatic nitro compounds, aromatic hydrocarbons, polycyclic aromatic hydrocarbon, 2-naphthyl aminobenzidine, amino-4-dipheyl (xenylamine) or their derivatives and cyanides.

The total coal tar dye content percent by mass (m/m) in colour preparation or in mixture

shall be declared on the table of the container. In powder preparation, the declared value shall be on moisture free basis and in case of liquid preparation on ' as is basis' and the total dye content shall within  $\pm 15$  percent of the declared value. Colour preparation and colour mixture shall also comply with the following requirements namely: -

Sl. No	Characteristics	Requirements
(1)	(2)	(3)
1	Water insoluble matter, percent by mass	Not more than 1.0
2	Arsenic as (As), parts per million	Not more than 3
3	Lead as (Pb) parts per million	Not more than 10

### 13 Brilliant Blue FCF

Brilliant Blue FCF is hygroscopic in nature and its shade changes with different pH. Suitable precautions should, therefore, be taken in packing the colour.

Colour Brilliant Blue FCF is described below, namely:-

Common Name	--	Brilliant Blue FCF
Synonyms	--	C.I. Food Blue FD and C Blue No.1 Blue brilliant FCF
Class	--	Triarymethane

Colour	--	Blue
Colour Index	--	(1975) No.42900
Chemical Name	--	Disodium salt of alpha 4-(N-ethyl-beta-sulfoethylamino)-phenyl] alpha [4-(N-ethyl-3-Sulfonatobenzylimino) cyclohexa-2, 5-dienylidene] toluene-2-sulfonate.
Empirical Formula	--	$C_{17}H_{14}N_2O_9S_2$
Molecular Weight	--	792.86
General Requirements -		The material shall conform to the requirement prescribed in Table Below, namely:-

### TABLE FOR BRILLIANT BLUE FCF

Sl. No.	Characteristic	Requirement
---------	----------------	-------------



**2.****3.**

(i) Total dye content, corrected for Sample dried at 105±1°C for 2 hours, percent by Mass, Minimum	85
(ii) Loss on drying at 135°C, and Chlorides and Sulphates expressed as sodium salt, per cent by Mass, Maximum	15
(iii) Water insoluble matter, percent by Mass, Maximum	0.2
(iv) Combined ether extracts, percent by Mass, Maximum	0.2
(v) Subsidiary dyes, percent by Mass, Maximum	3
(vi) Dye intermediates, percent by Mass, Max.	
O, sulpho-benzaldehyde, Maximum	1.5
N-N' ethyl-benzyl-aniline-3-sulphonic acid, Maximum	0.3
(c) Leuco base, percent by Mass, Maximum	5
(vii) Heavy metals, (as Pb), mg/kg, Maximum	40
- Lead, mg/kg, Maximum	10
- Arsenic, mg/kg, Maximum	3
- Chromium, mg/kg, Maximum	50

**Note:-** The material shall be free from aromatic amines, aromatic nitro compounds, aromatic hydrocarbons and cyanides.

#### 14. Fast Green FCF:

Fast Green FCF is hygroscopic in nature and its shade changes with different pH. Suitable precautions should, therefore, be taken in packing the colour.

Fast Green FCF is described below, namely:-

Common Name	Fast Green FCF
Synonyms	C.I. Food Green 3, FD and C Green No.3, Vert Solide FCF
Class	Triarylmethane
Colour	Green
Colour Index	(1975) No.42053
Chemical Name	Disodium salt of 4-[4-(N-ethyl-p-sulfobenzylamino)-phenyl-(4-hydroxy-2-sulphonumphenyl)-methylene]-(N-ethyl-N-p-sulphobenzyl 2, 5-cyclohexadienimine).

Empirical Formula	C <sub>37</sub> H <sub>34</sub> O <sub>10</sub> N <sub>2</sub> S <sub>2</sub> Na <sub>2</sub>
Molecular Weight	808.86
Requirements	The material shall conform to the requirement prescribed in Table below, namely:-

**TABLE FOR FAST GREEN FCF**

1.	2.	3.
SI. No.	Characteristic	Requirement
(i)	Total dye content, corrected for Sample dried at 105±1°C for 2 hours, percent by mass, Minimum	85
(ii)	Loss on drying at 135°C, and, percent by Mass, Maximum and chlorides and Sulphates expressed as sodium salt, percent by mass, Maximum	13
(iii)	Water insoluble matter, percent by Mass, Maximum	0.2
(iv)	Combined ether extracts, percent by Mass. Max.	0.2
(v)	Subsidiary dyes, percent by mass, Maximum	1.0
(vi)	Organic compound other than colouring matter uncombined intermediates and products of side reactions	
(a)	Sum of 2-, 3-, 4-formyl benzene sulphonic acid, sodium salts, percent by Mass, Maximum	0.5
(b)	Sum of 3- and 4-[ethyl (4-sulfophenyl) amino] methyl benzene sulphonic acid, disodium salts, Percent by Mass, Maximum	0.3
(c)	2-formyl-5-hydroxybenzene sulphonic acid sodium salt, percent by Mass, Maximum	0.5
(d)	Leuco base, percent by Mass, Maximum	5.0
(e)	Unsulphonated primary aromatic amines (calculated as aniline), percent by Mass, Maximum	0.01
(vii)	Lead, mg/kg, Maximum	10
(viii)	Arsenic, mg/kg, Maximum	3
(ix)	Chromium, mg/kg, Maximum	50
(x)	Mercury, mg/kg, Maximum	Absent
(xi)	Heavy metals, mg/kg, Maximum	40

**Note:-** The material shall be free from aromatic nitro compounds, aromatic hydrocarbons and cyanides

**15. Aluminium Lake of Sunset Yellow FCF** Food Yellow No.5 Aluminium Lake is

a fine orange yellow water soluble, odourless powder. It is prepared by precipitating Sunset Yellow FCF (conforming to specification under 10.02 of Appendix C of these Regulations) on to a substratum of Alumina.

Chemical Name - Sunset Yellow FCF Aluminium Lake -6, hydroxy-5 (4-sulfophenylazo)-2 Naphthalenesulphonic acid, Aluminium Lake.

Synonym - CI Pigment Yellow, 104, FD and C Yellow No. 6, Aluminium Lake (USA), Food Yellow No. 5 Aluminium Lake (Japan).

(1) Sunset yellow dye used in preparation of lake colour shall conform to specifications laid down under table 2 of these Regulations.

- |   |                           |
|---|---------------------------|
| (2) Pure dye content of Aluminium Lake weight by weight | not less than 17 percent  |
| (3) Substratum of Aluminium oxide                       | not more than 83 percent. |
| (4) Aluminium content in the lake weight by weight      | not more than 44 percent  |
| (5) Sodium chlorides and sulphates (as sodium salts)    | not more than 2.0 percent |
| (6) Inorganic matter (HCl insoluble)                    | not more than 0.5 percent |
| (7) Lead (as Pb)  | not more than 10 ppm      |
| (8) Arsenic (as As)                                     | not more than 3 ppm       |

Alumina used in colour shall conform to following, namely:—

- (a) **Identity:** Alumina (dried as aluminium hydroxide) is a white, odourless, tasteless, amorphous powder consisting essentially of Aluminium hydroxide ( $\text{Al}_2\text{O}_3 \times \text{H}_2\text{O}$ ).
- (b) **Specifications:** Alumina (dried aluminium hydroxide) shall conform to the following specifications, namely:-
- (i) Acidity or alkalinity: Agitate 1 gm with 25ml of water and filter. The filtrate shall be neutral to litmus paper.
  - (ii) Lead (as Pb) not more than 10 parts per million
  - (iii) Arsenic (as As) not more than 1 parts per million
  - (iv) Mercury (as Hg) not more than 1 parts per million
  - (v) Aluminium oxide ( $\text{Al}_2\text{O}_3$ ) not less than 50 percent

**Solubility:** Lakes are insoluble in most solvents. They are also insoluble in water in pH range from 3.5-9.0 but outside this range and lake substrate tends to dissolve releasing the captive dye.

## **CHAPTER 7: PROHIBITION AND RESTRICTIONS ON SALES**

### **Part 7.1 Sale of certain admixtures prohibited – Regulation 7.1.1**

Notwithstanding the provisions of **Part 4.7** no person shall either by himself or by any servant or agent sell–

- 1) cream which has not been prepared exclusively from milk or which contains less than 25 per cent. of milk fat;
- 2) milk which contains any added water;
- 3) ghee which contains any added matter not exclusively derived from milk fat;
- 4) skimmed milk (fat abstracted) as milk;
- 5) a mixture of two or more edible oils as an edible oil;
- 6) vanaspati to which ghee or any other substance has been added;
- 7) turmeric containing any foreign substance;
- 8) mixture of coffee and any other substance except chicory;
- 9) dahi or curd not prepared from boiled, pasteurised or sterilized milk;
- 10) milk or a milk product specified in **Chapter 5** containing a substance not found in milk, except as provided in the regulations.

PROVIDED that the Central Government or the Food Authority may, by notification in the Official Gazette exempt any preparations made of soluble extracts of coffee from the operation of this regulation.

Provided further that proprietary food articles relating to **Regulation 7.1.1(8)** shall be exempted from the operation of this Regulation

PROVIDED FURTHER that in respect of **Regulation 7.1.1(5)** a maximum tolerance limit of 10 red units in one cm. cell on Lovibond scale is permitted when the oil is tested for Halphen's test without dilution, that is to say, by shaking 5 ml. of the sample with 5 ml. of sulphur solution one per cent (w/v) solution of sulphur in carbon-di-sulphide mixed with equal volume of amyl alcohol in a closed system test tube (250 x 25cm.) heating in hot water (70<sup>0</sup>C- 800<sup>0</sup>C) for a few minutes with occasional shaking until carbon-di-sulphide is boiled off and the sample stops foaming and then placing the tube on saturated brine bath, capable of being regulated at 110<sup>0</sup>C-115<sup>0</sup>C for 2.5 hours

PROVIDED also that prohibition in **Regulation 7.1.1 (5)** shall remain inoperative in respect admixture of any two edible vegetable oils as one edible vegetable oil, where –

(a) the proportion by weight of any vegetable oil used in the admixture is not less than 20 per cent. by weight; and

(b) the admixture of edible vegetable oils, is processed or packed and sold, by the Department of Civil Supplies, Government of India (Directorate of Vanaspati, Vegetable Oils and Fats) or by the agencies in public, private or Joint Sector authorized by the

Department or by the National Dairy Development Board or by the State Cooperative Oilseeds Growers Federation or Regional and District Cooperative Oilseeds Growers Union set-up under National Dairy Development Board's Oilseeds and Vegetable Oil Project or by the Public Sector undertakings of Central and State Governments, in sealed packages weighing not more than 15 litres under Agmark Certification Mark compulsorily and bearing the label declaration as laid down in the regulations and

(c) the quality of each edible oil used in the admixture conforms to the relevant standard prescribed by these regulations

**Part 7.2: Restriction on use of certain ingredient:**

**Regulation 7.2.1:**

No person in any State shall, with effect from such date as the state government concerned may by notification in the official gazette specify in this behalf, sell or offer or expose for sale, or have in his possession for the purpose of sale, under any description or for use as an ingredient in the preparation of any article of food intended for sale :—

- a) Kesari gram (*Lathyrus sativus*) and its products.
- b) Kesari dal (*Lathyrus sativus*) and its products.
- c) Kesari dal flour (*Lathyrus sativus*) and its products.
- d) a mixture of Kesari gram (*Lathyrus sativus*) and Bengal-gram (*Cicer arietinum*) or any other gram.
- e) A mixture of Kesari dal (*Lathyrus sativus*) and Bengal-gram dal (*Cicer arietinum*) or any other dal.
- f) a mixture of Kesari dal (*Lathyrus sativus*) flour and Bengal-gram (*Cicer arietinum*) flour or any other flour.

**Explanation.**—The equivalent of kesari gram in some of the Indian Languages are as follows :—

1.	Assamese	Khesari,Teora.
2.	Bengali	Khesari,Teora, Kassur,Batura.
3.	Bihari	Khesari,Teora,Kassur,Batura.
4.	English	Chikling vetch.
5.	Gujarati	Lang.
6.	Hindi	Khesari, Kessur, Kesari, Kassartiuri, Batura, Chapri, Dubia, Kansari, Kesori, Latri, Tinra, Tiuri, Kassor.
7.	Kannada	Laki Bele, Kessari Bele.
8.	Malyalam	Kesari, Lanki, Vattu.
9.	Tamil	Muku.
10.	Marathi	Lakheri, Batri, Lakhi, Lang, Mutra, Teora, Botroliki-dal, Lakh.
11.	Oriya	Khesra, Khesari, Khesari dal.
12.	Persian	Masang.
13.	Punjabi	Kisari, Chural, Karas, Karil, Kasa Kesari, Chapa.
14.	Sanskrit	Sandika, Triputi.
15.	Sindhi	Matter.
16.	Telugu	Lamka

### **Part 7.3 Prohibition and Restriction on sale of certain products**

**Regulation 7.3.1: Prohibition on sale of food articles coated with mineral oil:** No person shall sell or offer or expose for sale or have in his premises for the purpose of sale under any description, food articles which have been coated with mineral oil, except where the addition of mineral oil is permitted in accordance with the standards laid down in **these Regulations and Chapter 5.**

**Regulation 7.3.2: Restriction on sale of Carbia Callosa and Honey**

**dew.**

Carbia Callosa and Honey dew shall be sold only in sealed containers bearing Agmark seal.

**Regulation 7.3.3: Food resembling but not pure honey not be marketed as honey**

No person shall use the word 'honey' or any word, mark, illustration or device that suggests honey on the label or any package of, or in any advertisement for, any food that resembles honey but is not pure honey.

**Regulation 7.3.4: Product not to contain any substance which may be injurious to health.-**

Tobacco and nicotine shall not be used as ingredients in any food products.

**Regulation 7.3.5: Prohibition of use of carbide gas in ripening of fruits.**

No person shall sell or offer or expose for sale or have in his premises for the purpose of sale under any description, fruits which have been artificially ripened by use of acetylene gas, commonly known as carbide gas.

**Regulation 7.3.6: Sale of Fresh Fruits and Vegetables** - The Fresh Fruits and Vegetables shall be free from rotting and free from coating of waxes, mineral oil and colours.

PROVIDED that fresh fruits may be coated with bees wax (white and yellow) or carnauba wax or shellac wax at level not exceeding Good Manufacturing Practices under proper label declaration as provided in the Regulations.



**Regulation 7.3.7: Sale or use for sale of admixtures of ghee or butter prohibited.**

No person shall sell or have in his possession for the purpose of sale or for use as an ingredient in the preparation of an article of food for sale a mixture of ghee or butter and any substance

- 1) prepared in imitation of or as a substitute for ghee or butter, or
- 2) consisting of or containing any oil or fat which does not conform to the definition of ghee;

PROVIDED that where a mixture prohibited by this regulation is required for the preparation of an article of food, such mixture shall be made only at the time of the preparation of such article of food.

**Regulation 7.3.8: Restriction on sale of ghee having less Reichert value than that specified for the area where such ghee is sold.**

- 1) The ghee having less Reichert value and a different standard for Butyro-refractometer reading at 40<sup>0</sup> C than that specified for the area in which it is imported for sale or storage shall not be sold or stored in that area except under the '**AGMARK**' seal:

PROVIDED that such ghee may be (i) sold loose, after opening the '**AGMARK**' sealed container, in quantities not exceeding two kilograms at a time, and (ii) used in the preparation of confectionery (including sweetmeats).

- 2) A person selling:—

- (i) such ghee in the manner specified in **Regulation**

### **7.3.8 (1) and**

(ii) confectionery (including sweetmeats) in the preparation of which such ghee is used, shall give a **declaration, in the Form B, Appendix C** to the Food Safety Officer when a sample thereof is taken by him for analysis under Section 47 of the Act and also to a purchaser desiring to have the sample analysed under Section 40 of the Act.

(iii) If on analysis such sample is found to be conforming to the standards of quality prescribed for the area where it is alleged to have been produced, the ghee shall not be deemed to be adulterated by reason only that it does not conform to the standards of quality prescribed for the area where it is sold.

### **Regulation 7.3.9 : Restriction on sale of Til Oil produced in Tripura, Assam and West Bengal.**

Til Oil (Sesame Oil) obtained from white sesame seeds, grown in Tripura, Assam and West Bengal having different standards than those specified for til oil shall be sold in sealed containers bearing Agmark label. Where this til oil is sold or offered for sale without bearing an Agmark label, the standard given for til oil shall apply.

### **Regulation 7.3.10: Special provisions relating to vegetable oil and fat**

- 1) No vegetable oil other than those specified under the list below or oil or fat of animal or mineral origin shall be used in the manufacture of the products or shall otherwise be present therein;

List of vegetable oils Vanaspati shall be prepared from:

- a. Coconut oil
- b. Cottonseed oil
- c. Dhupa oil
- d. Groundnut oil
- e. Kokrum oil
- f. Linseed oil
- g. Mahua oil
- h. Maize (Corn) oil
- i. Mango kernel oil
- j. Mustard/Rapeseed oil
- k. Nigerseed oil
- l. Palm oil
- m. Phulwara oil
- n. Rice bran oil
- o. Sunflower (Kard/seed) oil
- p. Salseed oil (up to 10%)
- q. Sesame oil
- r. Soyabean oil
- s. Sunflower oil
- t. Watermelon seed oil
- u. Vegetable oils imported for edible purposes:

2) No vegetable oil shall contain any harmful colouring, flavouring or any other matter deleterious to health;

3) No colour shall be added to hydrogenated vegetable oil unless so authorized by Food Authority, but in no event any colour resembling the colour of ghee shall be added. If any flavour is used, it shall be distinct from that of ghee, in accordance with a

list of permissible flavours and such quantities as may be prescribed by the Food Authority

- 4) No anti-oxidant, synergist, emulsifier or any other such substance be added to any vegetable oil except with the prior sanction of the Central Government
- 5) No person shall sell or expose for sale, or distribute, or offer for sale, or dispatch, or deliver to any person for the purpose of sale any edible oil –
  - a) Which does not conform to the standards of quality as provided in the Food Safety and Standards Act, 2006 (34 of 2006) and rules/regulations made there under; and
  - b) Which is not packed in a container, marked and labelled in the manner as specified in FSSAI regulations

Provided that the State Government may, in the public interest, for reasons to be recorded in writing, in specific circumstances and for a specific period by a notification in the Official Gazette, exempt any edible oil from the provisions of this Act.

**6) Restriction on the use of solvent**

No solvent other than n-Hexane (Food Grade) shall be used in the extraction of cocoa butter, oils and fats and edible soya flour.

The quantity solvent mentioned in the column (1) of the Table below, in the food mentioned in column (2) of the said Table, shall not exceed the tolerance limits prescribed in column (3) of the said Table:

**TABLE**

Name of solvent	Article of food	Tolerance limits mg/kg/ (ppm)
Hexane (Food Grade)	(a) Refined Solvent extracted cocoa butter.	5.00
	(b) Refined Solvent extracted oils & fats.	5.00
	(c) Solvent extracted edible soya flour.	10.00

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**Regulation 7.3.11 Restriction on sale of Kangra tea.**

Kangra tea shall be sold or offered for sale only after it is graded and marked in accordance with the provisions of the Agricultural Produce (Grading and Marking) Act, 1937 (1 of 1937) and the regulations made thereunder.

**Regulation 7.3.12: Condition for sale of flavoured tea :-**

Flavoured tea shall be sold or offered for sale only by those manufacturers who are registered with Tea Board. Registration No. shall be mentioned on the label. It shall be sold only in packed conditions with label declaration as provided in the regulations.

**Regulation 7.3.13: Restriction on sale of common salt** – No person shall sell or offer or expose for sale or have in his premises for the purpose of sale, the common salt, for direct human consumption unless the same is iodized:

PROVIDED that common salt may be sold or exposed for sale or stored for sale for iodization, iron fortification, animal use, preservation, manufacturing medicines, and industrial use, under proper label declarations, as specified in the Regulations.

**Regulation 7.3.14: Use of flesh of naturally dead animals or fowls prohibited.**

No person shall sell or use as an ingredient in the preparation of any article of food intended for sale, the flesh of any animal or fowl which has died on account of natural causes.

**Regulation 7.3.15: Special provisions relating to Milk**

- 1) The Authority shall have power to issue direction relating to any restriction or restraint on free interstate movement of milk and milk products
- 2) The Food Safety Commissioner may, if satisfied that it is necessary to do so to maintain or increase the supply of liquid milk in any region, direct by order that for the period mentioned in the said order, the distribution of liquid milk or the production of any milk product by any class or category of producers or manufacturers thereof shall be restricted in such manner as may be specified in the order, provided that no such order shall remain in force for more than 90 days at a time. In making this restriction the Commissioner of Food Safety should have regard to following factors:
  - (i). The availability of liquid milk in the region;
  - (ii). Demand for liquid milk by general public in the region;
  - (iii). Availability of skimmed milk powder and white butter for reconstitution into liquid milk for dairy plants;
  - (iv). The inter se importance of liquid milk and the concerned milk products proposed to be restricted

- and;
- (v). Any other factors relevant for maintaining liquid milk supply.

**Regulation 7.3.16: Restrictions relating to conditions for sale**

1. No person shall store, expose for sale or permit the sale of any insecticide in the same premises where articles of food are stored, manufactured or exposed for sale:

PROVIDED that nothing in this regulation shall apply to the approved household insecticides which have been registered as such under the Insecticides Act 1968 (46 of 1968).

**Explanation.**—For the purpose of this regulation, the word 'insecticide' has the same meaning as assigned to it in the Insecticides Act, 1968 (46 of 1968).

2. No person shall sell or serve food in any " commercial establishment" in plastic articles used in catering and cutlery, unless the plastic material used in catering and cutlery articles, conform to the food grade plastic, specified in **Regulation 7.3.10 (6)** of these regulations.

Explanation :- For the purpose of this **Regulation 7.3.16 (2)**, "commercial establishment" means any establishment, called by whatever name, being run\ managed by any person or by any authority of the Government\ Semi-Government or by any corporate\ registered body which deals in the business of selling or serving food".

3. Iron fortified common salt shall be sold only in high density polyethylene bag (HDPE) 14 mesh, density 100 kg/m<sup>3</sup>, unlaminated)

package which shall bear the label as specified in the Regulations.

4. Table iodized salt or table iron fortified common salt containing anticaking agent shall be sold only in a package which shall bear the labels as specified in the **Regulation 4.2**
5. Dried Glucose Syrup containing sulphur-dioxide exceeding 40 ppm shall be sold only in a package which shall bear the label as specified in the Regulations.
6. No person shall manufacture, sell, store or exhibit for sale an infant milk food, infant formula and milk cereal based weaning food, processed cereal based weaning food and follow up formula except under Bureau of Indian Standards Certification Mark.
7. Condensed milk sweetened, condensed skimmed milk sweetened, milk powder, skimmed milk powder, partly skimmed milk powder and partly skimmed sweetened condensed milk shall not be sold except under Indian Standards Institution Certification Mark.
8. Every package of cheese (hard), surface treated with Natamycin, shall bear the label as specified in the Regulations.
9. No person shall sell protein rich atta and protein rich maida except in packed condition mentioning the names of ingredients on the label.
10. No person shall sell sal-seed fat for any other purpose except for BAKERY AND CONFECTIONERY and it shall be refined and shall bear the label declaration as specified in the Regulations.



11. No person shall sell confectionery weighing more than 500 gms. except in packed condition and confectionery sold in pieces shall be kept in glass or other suitable containers.

**Explanation.**—for the purposes of **Regulation 7.3.16 (11)** “Confectionery, shall mean sugar boiled confectionery, lozenges and chewing gum and bubble gum”;

12. All edible oils, except coconut oil, imported in crude, raw or unrefined form shall be subjected to the process of refining before sale for human consumption. Such oil shall bear a label declaration as laid down in **Regulation 4.4.2**

13. The Blended Edible Vegetable Oils shall not be sold in loose form. It shall be sold in sealed package weighing not more than 15 litres. The container having blended edible vegetable oil shall be tamper proof. It shall also not be sold under the common or generic name of the oil used in the blend but shall be sold as 'Blended Edible Vegetable Oil. The sealed package shall be sold or offered for sale only under AGMARK certification mark bearing the label declarations as provided in the Regulations besides other labelling requirements under the Regulations.

14. Coloured and flavoured table margarine shall only be sold in a sealed package weighing not more than 500 gms, with a label declaring addition of colour and flavour as required under these regulations.

15. The fat spread shall not be sold in loose form. It shall be sold in

sealed packages weighing not more than 500 gms. The word 'butter' shall not be associated while labelling the product. The sealed package shall be sold or offered for sale only under AGMARK Certification mark bearing the label declaration as provided under **Regulation 4.4.4** besides other labelling requirements under these regulations.

16. No person shall sell compounded asafoetida exceeding one kilogram in weight except in a sealed container with a label.

17. No person shall sell powdered spices condiments except under packed conditions.

**Explanation :-** For the purpose of **Regulation 7.3.16 (17)** "Spices and Condiments" means the spices and condiments as specified in **Part 5.8**.

18) The katha prepared by bhatti method shall be conspicuously marked as "Bhatti Katha"

19) No person shall manufacture, sell or exhibit for sale packaged drinking water except under the Bureau of Indian Standards Certification Mark.

20) No person shall manufacture, sell or exhibit for sale mineral water except under the Bureau of Indian Standards Certification Mark";

Explanation:— For the purpose of **Regulation 7.3.16 (20)**, the expression "mineral water" shall have the same meaning as assigned to it in **Chapter 5.9.7**.

21) No person shall sell any food product wherein artificial sweetener is

permitted under these regulations, except under packed condition and as per the labelling requirements prescribed under the Regulations.

**22) Conditions for sale of irradiated food.**- All irradiated food shall be sold in pre-packed conditions only. The type of packaging material used for irradiated food for sale or for stock for sale or for exhibition for sale or for storage for sale shall conform to the packaging and labelling requirements specified in the Regulations.

## CHAPTER 8: CONTAMINANTS, TOXINS AND RESIDUES

### Part 8.1 : METAL CONTAMINANTS

#### Regulations 8.1.1

- 1) Chemicals described in monographs of the Indian Pharmacopoeia when used in foods, shall not contain metal contaminants beyond the limits specified in the appropriate monographs of the Indian Pharmacopoeia for the time being in force.
- 2) Notwithstanding the provisions of **Regulation 8.1.1 (1)**, no article of food specified in Column 2 of the table below shall contain any metal specified in excess of the quantity specified in Column 3 of the said table :

Table

Name of the metal contaminants	Article of food	Parts per Million by weight
(1)	(2)	(3)
<b>1. Lead</b>	<b>(i) Beverages :</b> Concentrated soft drinks (but not including concentrates used in the manufacture of soft drinks)	0.5
	Fruit and vegetable juice (including tomato juice, but not including lime juice and lemon juice)	1.0
	Concentrates used in the manufacture of soft drinks, lime juice and lemon juice	2.0
(i-a)	Baking powder	10
(i-b)	Edible oils and fats	0.5
(i-c)	Infant Milk substitute and Infant foods	0.2
(i-d)	Turmeric whole and powder	10.0
(ii)	<b>Other foods</b>	
	Anhydrous dextrose and dextrose monohydrate, refined white sugar (sulphated ash content not exceeding 0.03	0.5

	per cent)	
	Ice-cream, iced lollies and similar frozen Confections	1.0
	Canned fish, canned meats, edible gelatin, meat extracts and hydrolysed protein, dried or dehydrated vegetables (other than onions)	5.0
	All types of sugar, sugar syrup, invert sugar and direct consumption coloured sugars with sulphated ash content exceeding 1.0 per cent	5.0
	Raw sugars except those sold for direct consumption or used for manufacturing purpose other than the manufacture of refined sugar.	5.0
	Edible molasses, caramel liquid and solid glucose and starch conversion products with a sulphated ash content exceeding 1.0 per cent	5.0
	Cocoa powder	5.0 on the dry fat free Substance
	Yeast and yeast products	5.0 on the dry Matter
	Tea, dehydrated onions, dried herbs and spices flavourings, alginic acid, alginates, agar, carrageen and similar products derived from seaweed	10.0 on the dry matter
	Liquid pectin, chemicals not otherwise specified, used as ingredients or in the preparation or processing of food	10.0
	Food colouring other than caramel riboflavin	10.0 on the dry colouring matter
	Solid pectin	50
	Hard boiled sugar confectionery	2.0
	Iron fortified common salt	2.0
(ii-a)	Corned beef, luncheon meat, Cooked Ham, Chopped meat, Canned chicken, Canned mutton and Goat meat and other related meat products.	2.5
(ii b)	Brewed Vinegar and Synthetic Vinegar	Nil
(iii)	Foods not specified	2.0

<b>2. Copper</b>			
	(i)	<b>Beverages</b>	
		Soft drinks excluding concentrates and Carbonated water	7.0
		Carbonated water	1.5
		Toddy	5.0
		Concentrates for soft drinks	20.0
	(ii)	<b>Other Foods</b>	
		Chicory-dried or roasted, coffee beans, flavorings,	30.0
		Pectin-liquid Colouring	30.0 on dry colouring matter
		Edible gelatin	30.0
		Tomato ketchup	50.0 on the dried total solids
		Yeast and yeast products	60.0 on the dry matter
		Cocoa powder	70.0 On the fat free substance

		Tomato puree, paste, powder, juice and cocktails	100.0 on the dried tomato solid
		Tea	150.0
		Pectin-solid	300.0
		Hard boiled sugar confectionery	5.0
		Iron Fortified Common Salt	2.0
	(ii-a)	Turmeric whole and powder	5.0
	(ii-b)	Juice of orange, grape, apple, tomato, pineapple and lemon	5.0
		Pulp and pulp products of any fruit	5.0
	(ii-c)	Infant milk substitute and Infant foods	15.0 (But not less than 2.8)
	(ii-d)	Brewed Vinegar and Synthetic vinegar	Nil
	(ii e)	Caramel	20

	(iii)	Foods not specified		30.0
<b>3.</b>	<b>Arsenic</b>	(i) Milk		0.1
		(ii) Beverages :		
		Soft drink intended for consumption after dilution except carbonated water		0.5
		Carbonated water		0.25
		(ii-a) Infant Milk substitute and Infant foods		0.05
		(ii-b) Turmeric whole and powder		0.1
		(ii-c) Juice of orange, grape, apple, tomato, pineapple and lemon		0.2
		Pulp and pulp products of any fruit		0.2
		(iii) Preservatives, anti-oxidants, emulsifying and stabilising agents and synthetic food colours other than riboflavin		3.0 on dry matter
		(iv) Other foods :		
		Ice-cream, iced lollies and similar frozen confections		0.5
		Dehydrated onions, edible gelatin, liquid pectin		2.0
		Chicory-dried or roasted		4.0
		Dried herbs, finings and clearing agents, solid pectin all grades, spices		5.0
		Food colouring other than synthetic colouring, riboflavin		5.0 on dry colouring matter
		Hard boiled sugar confectionery		1.0
		Iron Fortified Common Salt		1.0
		(iv-a) Brewed Vinegar and Synthetic Vinegar		0.1
		(v) Foods not specified		1.1
<b>4.</b>	<b>Tin</b>	(i) Processed and canned products		250.0
		(i-a) Hard boiled sugar confectionery		5.0
		(i-aa) Jam, Jellies and Marmalade		250
		Juice of orange, apple, tomato, pineapple and lemon		250
		Pulp and pulp products of any fruit		250

		(i-b) Infant Milk substitute and Infant foods	5.0
		(i-c) Turmeric whole and powder	Nil
		(i-d) Corned beef, Luncheon meat, Cooked Ham, Chopped meat, Canned chicken, Canned mutton and Goat meat and other related meat products.	250
		(ii) Foods not specified	250
<b>5. Zinc</b>		(i) Ready-to-drink beverages	5.0
		Juice of orange, grape, tomato, pipeapple and lemon	5.0
		Pulp and pulp products of any fruit	5.0
		(i-a) Infant milk substitute and Infant foods	50.0 (but not less than 25.0)
		(ii) Edible gelatin	100.0
		(ii-a) Turmeric whole and powder	25.0
		(iii) Fruit and Vegetable products covered under the <b>Chapter 5</b>	50.0
		(iii-a) Hard boiled sugar confectionery	5.0
		(iv) Foods not specified	50.0
<b>6. Cadmium</b>		(i) Infant Milk substitute and Infant foods	0.1
		(ii) Turmeric whole and powder	0.1
		(iii) Other foods	1.5
<b>7. Mercury (as Hg)</b>		Fish	0.5
		Other foods	1.0
		Caramel	0.1
<b>8. Methyl Mercury</b>		All foods	0.25
(Calculated as the element)			
<b>9. Chromium</b>		Refined Sugar	20 ppb
		Brilliant Blue, Fast Green FCF	50
<b>10. Nickel</b>		All hydrogenated, patially hydrogenated, interesterified vegetable oils and fats such as vanapti ospread and partially hydrogenated soyabean oil	1.5



**Part :8.2 Crop contaminants and naturally occurring toxic substances**

**Regulation 8.2.1**

- 1) Crop contaminant means any substance not intentionally added to food, but which gets added to articles of food in the process of their production (including operations carried out in crop husbandry, animal husbandry and veterinary medicine), manufacture, processing, preparation, treatment, packing, packaging transport or holding of articles of such food as a result of environmental contamination.
- 2) No article of food specified in column (2) of the Table below shall contain any crop contaminant specified in the corresponding entry in column (1) thereof in excess of quantities specified in the corresponding entry in column (3) of the said table :-

**Table**

Sl. No.	Name of the Contaminants	Article of Food	µg/kg.
(1)	(2)	(3)	(4)
1.	Aflatoxin	All articles of food	30
2.	Aflatoxin M <sub>1</sub>	Milk	0.5
3.	Patulin	Apple juice & Apple juice ingredients in other beverages	50
4.	Ochratoxin A	Wheat, barley & rye	20

**3) Naturally Occuring Toxic Substances.**

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

S.No	Name of substance	Maximum limit
	(1)	(2)
1	Agaric acid	100ppm

2	Hydrocyanic acid	5ppm
3	Hypericine	1ppm
4	Saffrole	10ppm

### Part 8.3: Residues

#### Regulation 8.3.1: Restriction on the use of insecticides.

- (i) Subject to the Provisions of **(ii) of Regulation 8.3.1**, no insecticides shall be used directly on articles of food:

PROVIDED that nothing in this regulation shall apply to the fumigants which are registered and recommended for use as such on articles of food by the Registration Committee, constituted under section 5 of the Insecticides Act, 1968 (46 of 1968).

- (ii) The amount of insecticide mentioned in Column 2 on the foods mentioned in column 3, shall not exceed the tolerance limit prescribed in column 4 of the Table given below :

Sl.No.	Name of Insecticides	Food	Tolerance limit mg/kg.ppm)
(1)	(2)	(3)	(4)
1	Aldrin, dieldrin (the limits apply to aldrin and dieldrin singly or in any combination and are expressed as dieldrin)	Foodgrains Milled	0.01
		Foodgrains	Nil
		Milk and Milk products	0.15 (on a fat basis)
		Fruits and Vegetables	0.1
		Meat	0.2
		Eggs	0.1 (on a shell free basis)

2	Carbaryl	Fish	0.2
		Food grains	1.5
		Milled food grains	Nil
		Okra and leafy vegetables	10.0
		Potatoes	0.2
		Other vegetables	5.0
		Cottonseed (whole)	1.0
		Maize cob (kernels)	1.0
		Maize	0.50
		Rice	2.50
		Chillies	5.00
3	Chlordane (residue to be measured as cis plus trans chlordane)	Food grains	0.02
		Milled food grains	Nil
		Milk and milk products	0.05 (on a fat basis)
		Vegetables	0.2
		Fruits	0.1
		Sugar beet	0.3
4	D.D.T. (The limits apply	Milk and milk	1.25 (on a fat

	to DDT, DDD and DDE singly or in any combination	products Fruits and vegetables Meat, poultry and fish Eggs	basis) 3.5 7.0 (on a whole product basis) 0.5 (on a shell free basis)
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(1)	(2)	(3)	(4)
5.	D.D.T. (singly)	Carbonated Water	0.001
6.	D.D.D. (singly)	Carbonated Water	0.001
7.	D.D.E. (singly)	Carbonated Water	0.001
8	Diazinon	Foodgrains	0.05
		Milled foodgrains	Nil
		Vegetables	0.5
9.	Dichlorvos (content of dichloroacetaldehyde (D.C.A.) be reported where possible)	Foodgrains	1.0
		Milled foodgrains	0.25
		Vegetables	0.15
		Fruits	0.1
10.	Dicofol	Fruits and Vegetables	5.0
		Tea (dry manufactured)	5.0
		Chillies	1.0
11.	Dimethoate (residue to be determined as dimethoate and expressed as dimethoate)	Fruits and Vegetables	2.0
		Chillies	0.5
12.	Endosulfan (residues are measured and reported as total of endosulfan A and B and endosulfan-sulphate)	Fruits and Vegetables	2.0
		Cottonseed	0.5
		Cottonseed oil (crude)	0.2
		Bengalgram	0.20
		Pigeon Pea	0.10
		Fish	0.20
		Chillies	1.0
		Cardamom	1.0
13	Endosulfan A	Carbonated Water	0.001
14	Endosulfan B	Carbonated Water	0.001
15	Endosulfan-Sulphate	Carbonated Water	0.001

16.	Fenitrothion	Foodgrains	0.02
		Milled foodgrains	0.005
		Milk and Milk Products	0.05 (on a fat free basis)
		Fruits	0.5
		Vegetables	0.3
		Meat	0.03
17.	Heptachlor (combined residues of heptachlor and its epoxide to be determined and expressed as Heptachlor)	Foodgrains	0.01
		Milled foodgrains	0.002
		Milk and Milk Products	0.15(on a Fat basis)
		Vegetables	0.05
18.	Hydrogen cyanide		
		Foodgrains	37.5
		Milled foodgrains	3.0
19.	Hydrogen Phosphide	Foodgrains	Nil
		Milled foodgrains	Nil
20.	Inorganic bromide (determined and expressed as total bromide From all sources)	Foodgrains	25.0
		Milled Foodgrains	25.0
		Fruits	30.0
		Dried fruits	30.0
		Spices	400.00
21.	Hexachlorocycle hexane and its Isomers		
	(a) Alfa ( $\alpha$ ) Isomer:	Rice grain unpolished	0.10
		Rice grain polished	0.05
		Milk (whole)	0.05
		Fruits and vegetable	1.00
		Fish	0.25
		Carbonated Water	0.001
	(b) Beta ( $\beta$ ) Isomer :	Rice grain Unpolished	0.10
		Rice grain polished	0.05
		Milk (whole)	0.02
		Fruits and vegetable	1.00
		Fish	0.25

		Carbonated Water	0.001	
(1)	(2)	(3)	(4)	
	(c) Gamma ( $\gamma$ ) Isomer (Known as Lindane)	Food grains except rice	0.10	
		Milled foodgrains	Nil]	
		Rice grain Unpolished	0.10	
		Rice grain polished	0.05	
		Milk	0.01 (on Whole basis)	
		Milk products	0.20 (on fat basis)	
		Milk products (having less than 2 per cent fat)	0.20 (on Whole basis)]	
		Fruits and vegetable	1.00	
		Fish	0.25	
		Eggs	0.10 (On shell free basis)	
		Meat and poultry	2.00 (On Whole basis)	
		Carbonated Water	0.001	
		(d) Delta ( $\delta$ ) Isomer :	Rice grain Unpolished	0.10
			Rice grain Polished	0.05
	Milk (whole)		0.02"	
	Fruits and vegetable		1.00	
		Fish	0.25	
		Carbonated Water	0.001	
22.	Malathion (Malathion to be determined and expressed as combined residues of malathion and malaoxon)	Foodgrains	4.0	
		Milled foodgrains	1.0	
		Fruits	4.0	
		Vegetables	3.0	
		Dried fruits	8.0	
		Carbonated Water	0.001	
23.	Parathion (Combined residues of parathion and paraoxon to be determined and expressed as parathion)	Fruits and Vegetables	0.5	
24.	Parathion methyl	Fruits	0.2	

	(combined residues of parathion methyl	Vegetables	1.0
	and its oxygen analogue to be determined and expressed as parathion methyl)		
25.	Phosphamidon residues (expressed as the sum of phosphamidon and its desethyl derivative)	Foodgrains	0.05
		Milled foodgrains	Nil
		Fruits and Vegetables	0.2
26.	Pyrethrins (sum of pyrethrins I & II and other structurally related insecticide ingredients of pyrethrum)	Foodgrains	Nil
		Milled foodgrains	Nil
		Fruits and Vegetables	1.0
27.	CHLORIENVINPHOS  (Residues to be measured as alpha and beta isomers of Chlorienvinphos	Foodgrains	0.025
		Milled Foodgrains	0.006
		Milk and Milk Products	0.02 (fat basis)
		Meat and Poultry	0.2 (carcass fat)
		Vegetables	0.05
		Groundnuts	0.05 (shell free basis)
	Cotton seed	0.05	
28.	CHLOROBENZILATE	Fruits	1.0
		Dry Fruits, Almonds and Walnuts	0.2 (shell free basis)
29.	CHLORPYRIFOS	Foodgrains	0.05
		Milled foodgrains	0.01
		Fruits	0.5
		Potatoes and Onions	0.01
		Cauli Flower and Cabbage	0.01
		Other vegetables	0.2
		Meat and Poultry	0.1 (carcass fat)

		Milk and Milk Products	0.01(fat basis)
		Cotton seed	0.05
		Cottonseed oil (crude)	0.025
		Carbonated Water	0.001
30.	2,4D	Foodgrains	0.01
		Milled foodgrains	0.003
		Potatoes	0.2
		*Milk and Milk Products	0.05
		*Meat and Poultry	0.05
		Eggs	0.05 (shell free basis)
		Fruits	2.0
31.	(Residues to be determined as ethion and Its oxygen analogue and expressed as ethion)	ETHION Tea (dry manufactured)	5.0
		Cucumber and Squash	0.5
		Other Vegetables	1.0
		Cotton seed	0.5
		*Milk and Milk Products	0.5(fat basis)
		*Meat and Poultry	0.2 (carcass Fat basis)
		Eggs	0.2 (shell free basis)
		Foodgrains	0.025
		Milled foodgrains	0.006
		Peaches	1.0
		Other fruits	2.0
		Dry fruits	0.1 (shell free basis)
32.	FORMOTHION (Determined as dinethoate and its oxygen Analogue and expressed as dimethoate except in case of citrus fruits where it is to be determined as formathion)	Citrus fruits	0.2
		Other fruits	1.0
		Vegetable	2.0
		Peppers and Tomatoes	1.0
33.	ONOCROTOPHOS	Foodgrains	0.025
		Milled Foodgrains	0.006



		Citrus fruits	0.2
		Other fruits	1.0
		Carrot, Turnip, Potatoes and Sugar beet	0.05
		Onion and Peas	0.1
		Other Vegetables	0.2
		Cottonseed	0.1
		Cottonseed oil (raw)	0.05
		*Meat and Poultry	0.02
		*Milk and Milk Products	0.02
		Eggs	0.02 (shell free basis)
		Coffee (Raw beans)	0.1
		Chillies	0.2
		Cardamom	0.5
34.	PARAQUAT Dichloride (Determined as Paraquat cations)	Foodgrains	0.1
		Milled foodgrains	0.025
		Potato	0.2
		Other vegetables	0.05
		Cotton seed	0.2
		Cottonseed oil (edible refined)	0.05
		*Milk (whole)	0.01
		Fruits	0.05
35.	PHOSALONE	Pears	2.0
		Citrus fruits	1.0
		Other fruits	5.0
		Potatoes	0.1
		Other vegetables	1.0
		Rapeseed/Mustard Oil (crude)	0.05
36.	TRICHLORFON	Foodgrains	0.05
		Milled foodgrains	0.0125
		Sugar beet	0.05
		Fruits and Vegetables	0.1
		Oil seeds	0.1
		Edible Oil (refined)	0.05
		*Meat and Poultry	0.1
		*Milk (whole)	0.05
37.	THIOMETON (Residues determined as thiometon its sulfoxide)	Foodgrains	0.025
		Milled foodgrains	0.006
		Fruits	0.5

	and sulphone expressed as thiometon)	Potato, Carrots and Sugar beets	0.05
		Other vegetables	2.5
38.	Acephate	Safflower seed	2.0
		Cotton Seed	2.0
39.	Methamido-phos	Safflower seed	0.1
	(A metabolite of Acephate)	Cotton seed	0.1
40.	Aldicarb (sum of Aldicarb its sulphoxide and sulphone, expressed as Aldicarb)	Potato	0.5
		Chewing Tobacco	0.1
41.	Atrazine	Maize	Nil
		Sugarcane	0.25
42.	Carbendazim	Foodgrains	0.50
		Milled foodgrains	0.12
		Vegetables	0.50
		Mango	2.00
		Banana (whole)	1.00
		Other fruits	5.00
		Cotton seed	0.10
		Groundnut	0.10
		Sugar beet	0.10
		Dry fruits	0.10
		Eggs	0.10 (shell free basis)
		Meat & Poultry	0.10 (Carcass fat basis)
		Milk & Milk Products	0.10 (fat basis)
43.	Benomyl	Foodgrains	0.50
		Milled foodgrains	0.12
		Vegetables	0.50
		Mango	2.00
		Banana (whole)	1.00
		Other fruits	5.00
		Cotton seed	0.10
		Groundnut	0.10
		Sugar beet	0.10
		Dry fruits	0.10
		Eggs	0.10 (shell free basis)
		Meat & Poultry	0.10 (carcass fat

		basis)		
		Milk & Milk Products	0.10 (fat basis)	
44.	Captan	Fruit & Vegetables		15.00
45.	Carbofuran (sum of	Foodgrains		0.10
	carbofuran and	Milled foodgrains		0.03
	3-hydroxy carbofuran	Fruit & Vegetables		0.10
	expressed as	Oil seeds		0.10
	carbofuran)	Sugarcane		0.10
		Meat & Poultry	0.10 (carcass fat basis)	
		Milk & Milk Products	0.05 (fat basis)	
46.	Copper Oxychloride	Fruit		20.00
	(determined as copper)	Potato		1.00
		Other vegetables		20.00
47.	Cypermethrin	Wheat grains		0.05
	(sum of isomers)	Milled wheat grains		0.01
	(fat soluble residue)	Brinjal		0.20
		Cabbage		2.00
		Bhindi		0.20
		Oil seeds except groundnut		0.20
		Meat and Poultry 0.20 (carcass fat basis)		
		Milk and Milk Products 0.01 (fat basis)		0.01 (fat basis)
48.	Decamethrin / Deltamethrin	Cotton Seed		0.10
		Food grains		0.50
		Milled Food Grains		0.20
		Rice		0.05
49.	Edifenphos	Rice		0.02
		Rice bran		1.00
		Eggs		0.01 (shell free basis)
		Meat and		0.02

		poultry		(carcass fat basis)
		Milk and Milk products		0.01 fat basis)
50.	Fenthion (sum of fenthion, its oxygen analogue and their sulphoxides and sulphones expressed as fenthion)	Food grains		0.10
		Milled food grains		0.03
		Onion		0.10
		Potatoes		0.05
		Beans		0.10
		Peas		0.50
		Tomatoes		0.50
		Other vegetables		1.00
		Musk melon		2.00
		Meat and Poultry		2.00 (Carcass Fat basis)
		Milk and Milk products		0.05 (fat basis)
51.	Fenvalerate (fat soluble residue)	Cauliflower		2.00
		Brinjal		2.00
		Okra		2.00
		Cotton Seed		0.20
		Cotton Seed oil		0.10
		Meat and poultry		1.00 (carcass fat basis)
		Milk and Milk Products		0.01 (fat basis)
52.	Dithiocarbamates (the residue tolerance limit are determined and	Food Grains		0.20
		Milled food grains		0.05

	expressed as mg/CS <sub>2</sub> /kg and refer separately to the residues arising from any or each group of dithiocarbamates	Potatoes		0.10
		Tomatoes		3.00
		Cherries		1.00
		Other fruits		3.00
(a)		Dimethyl dithiocarbamates residue resulting from the use of ferbam or ziram, and		
(b)		Ethylene bis-dithiocarbamates resulting from the use of mancozeb, maneb or zineb (including zineb derived from nabam plus zinc sulphate)		
(c) Mancozeb		Chillies		1.0
53.	Phenthoate	Foodgrains		0.05
		Milled foodgrains		0.01
		Oilseeds		0.03
		Edible oils		0.01
		Eggs		0.05 (shell free basis)
		Meat & Poultry		0.05 (carcass fat basis)
		Milk & Milk products		0.01 (fat basis)
54.		Phorate (sum of	Foodgrains	
	Phorate, its oxygen	Milled foodgrains		0.01
	analogue and their	Tomatoes		0.10

	sulphoxides and sulphones, expressed as phorate)	Other vegetables	0.05
		Fruits	0.05
		Oil seeds	0.05
		Edible oils	0.03
		Sugarcane	0.05
		Eggs	0.05 (shell free basis)
		Meat & Poultry	0.05 (carcass fat basis)
		Milk & Milk Products	0.05 (fat basis)
55.	Simazine	Maize	Nil
		Sugarcane	0.25
56.	Pirimiphos-methyl	Rice	0.50
		Food grains except rice	5.00
		Milled food grains except rice	1.00
		Eggs	0.05 (shell free basis)
		Meat & Poultry	0.05 (carcass fat basis)
		Milk & Milk Products	0.05 (fat basis)
57.	Alachlor	Cotton Seed	0.05
		Groundnut	0.05
		Maize	0.10
		Soyabeans	0.10
58.	Alfa Nephthyl Acetic Acid (A.N.A.)	Pine-Apple	0.50
59.	Bitertanol	Wheat	0.05
		Groundnut	0.10
60.	Captafol	Tomato	5.00
61.	Cartaphydrochloride	Rice	0.50
62.	Chlormequatchloride	Grape	1.00
		Cotton Seed	1.00
63.	Chlorothalonil	Groundnut	0.10
		Potato	0.10
64.	Diflubenzuron	Cotton Seed	0.20
65.	Dodine	Apple	5.00
66.	Diuron	Cotton Seed	1.00
		Banana	0.10
		Maize	0.50

		Citrus	1.00
		(Sweet Orange)	
		Grapes	1.00
67.	Ethephon	Pine Apple	2.00
		Coffee	0.10
		Tomato	2.00
		Mango	2.00
68.	Fluchloralin	Cotton Seed	0.05
		Soya Beans	0.05
69.	Malic Hydrazide	Onion	15.00
		Potato	50.00
70.	Metalyxyl	Bajra	0.05
		Maize	0.05
		Sorghum	0.05
71.	Methomyl	Cotton Seed	0.10
72.	Methyl Chloro-phenoxy-acetic Acid (M.C.P.A.)	Rice	0.05
		Wheat	0.05
73.	Oxadiazon	Rice	0.03
74.	Oxydemeton methyl	Food-grains	0.02
75.	Permethrin	Cucumber	0.50
		Cotton Seed	0.50
		Soya Beans	0.05
		Sunflower Seed	1.00
76.	Quinolphos	Rice	0.01
		Pigeon pea	0.01
		Cardamom	0.01
		Tea	0.01
		Fish	0.01
		Chillies	0.2
77.	Thiophenatemethyl	Apple	5.00
		Papaya	7.00
78	Triazophos	Chillies	0.2
		Rice	0.05
		Cotton seed oil	0.1
		Soyabean oil	0.05
		Cotton seed oil	0.05
79	Profenofos	Cotton seed oil	0.05

80	Fenpropathrin	Cotton seed oil	0.05
81	Fenarimol	Apple	5.0
82	Hexaconazole	Apple	0.1
83	Iprodione	Rape seed	0.5
		Mustard seed	0.5
		Rice	10.0
		Tomato	5.0
		Grapes	10.0
84.	Tridemorph	Wheat	0.1
		Grapes	0.5
		Mango	0.05
85.	Penconazole	Grapes	0.2
86	Propiconazole	Wheat	0.05
87	Myclobutanil	Groundnut seed	0.1
		Grapes	1.0
88	Sulfosulfuron	Wheat	0.02
89	Trifluralin	Wheat	0.05
90	Ethoxysulfuron	Rice	0.01
91	Metolachlor	Soyabean Oil	0.05
92	Glyphosphate	Tea	1.0
93	Linuron	Pea	0.05
94	Oxyfluorfen	Rice	0.05
		Groundnut Oil	0.05
95	Carbosulfan	Rice	0.2
96	Tricyclazole	Rice	0.02
97	Imidacloprid	Cotton seed Oil	0.05
		Rice	0.05
98	Butachlor	Rice	0.05
99	Chlorimuron-ethyl	Wheat	0.05
100	Diclofop-methyl	Wheat	0.1
101	Metribuzin	Soyabean Oil	0.1
102	Lambdacyhalothrin	Cotton seed Oil	0.05
103	Fenazaquin	Tea	3.0
104	Pendimethalin	Wheat	0.05



		Rice	0.05
		Soyabean Oil	0.05
		Cotton seed Oil	0.05
105	Pretilachlor	Rice	0.05
106	Fluvalinate	Cotton seed Oil	0.05
107	Metasulfuron-methyl	Wheat	0.1
108	Methabenzthiazuron	Wheat	0.5
109	Imazethapyr	Soyabean oil	0.1
		Groundnut oil	0.1
110	Cyhalofop-butyl	Rice	0.5
111	Triallate	Wheat	0.05
112	Spinosad	Cotton seed oil	0.02
		Cabbage	0.02
		Cauliflower	0.02
113	Thiamethoxam	Rice	0.02
114	Fenobucarb	Rice	0.01
115	Thiodicarb	Cotton seed oil	0.02
116	Anilophos	Rice	0.1
117	Fenoxyp-prop-p-ethyl	Wheat	0.02
		Soyabean seed	0.02
118	Glufosinate-ammonium	Tea	0.01
119	Clodinafop-propanyl	Wheat	0.1
120	Dithianon	Apple	0.1
121	Kitazin	Rice	0.2
122	Isoprothiolane	Rice	0.1
123	Acetamiprid	Cotton seed oil	0.1
124	Cymoxanil	Grapes	0.1
125	Triadimefon	Wheat	0.5
		Pea	0.1
		Grapes	2.0
126	Fosetyl-A1	Grapes	10
		Cardamom	0.2
127	Isoproturon	Wheat	0.1
128	Propargite	Tea	10.0
129	Difenoconazole	Apple	0.01
130	b-Cyfluthrin	Cotton seed	0.02
131	Ethofenprox	Rice	0.01
132	Bifenthrin	Cotton seed	0.05
133	Benfuracarb	Red Gram	0.05
		Rice	0.05

134	Quizalofop-ethyl	Soyabean seed	0.05
135	Flufenacet	Rice	0.05
136	Buprofezin	Rice	0.05
137	Dimethomorph	Grapes	0.05
		Potatoes	0.05
138	Chlorfenopyr	Cabbage	0.05
139	Indoxacarb	Cotton seed	0.1
		Cottonseed oil	0.1
		Cabbage	0.1
140	Metiram	Tomato	5.0
		Ground nut seed	0.1
		Ground nut seed oil	0.1
141	Lufenuron	Cabbage	0.3
142	Carpropamid	Rice	1.0
143	Novaluron	Cottonseed	0.01
		Cottonseed oil	0.01
		Tomato	0.01
		Cabbage	0.01
144	Oxadiargyl	Rice	0.1
145	Pyrazosulfuron ethyl	Rice	0.01
146	Clomazone	Rice	0.01
		Soyabean seed	0.01
		Soyabean seed oil	0.01
147	Tebuconazole	Wheat	0.05
148	Propineb	Apple	1.0
		Pomegranate	0.5
		Potato	0.5
		Green Chillies	2.0
		Grapes	0.5
149	Thiochlorprid	Cotton seed	0.05
		Cotton seed oil	0.05
		Rice	0.01

**EXPLANATION :-** For the purpose of this regulation :

- (a) the expression "insecticide" shall have the meaning assigned to it in the Insecticide Act, 1968 (46 of 1968);
- (b) unless otherwise stated :
  - (i) maximum levels are expressed in mg./kg. on a whole product

basis.

- (ii) all foods refer to raw agricultural products moving in commerce.

**Regulation 8.3.2: ANTIBIOTIC AND OTHER PHARMACOLOGICALLY ACTIVE SUBSTANCES**

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

**TABLE**

S.No.	Name of Antibiotics	Tolerance limit mg/kg (ppm)
(1)	(2)	(3)
1.	Tetracycline	0.1
2.	Oxytetracycline	0.1
3.	Trimethoprim	0.05
4.	Oxolinic acid	0.3

- 2) The use of any of the following antibiotics and other Pharmacologically Active Substances shall be prohibited in any unit processing sea foods including shrimps, prawns or any other variety of fish and fishery products -

- (i) All Nitrofurans including
- (ii) Furaltadone
- (iii) Furazolidone
- (iv) Furylfuramide
- (v) Nifuratel
- (vi) Nifuroxime
- (vii) Nifurprazine
- (viii) Nitrofurantoin
- (ix) Nitrofurazone
- (x) Chloramphenicol
- (xi) Neomycin
- (xii) Nalidixic acid
- (xiii) Sulphamethoxazole

- (xiv) Aristolochia spp and preparations thereof
- (xv) Chloroform
- (xvi) Chlorpromazine
- (xvii) Cholchicine
- (xviii) Dapsone
- (xix) Dimetridazole
- (xx) Metronidazole
- (xxi) Ronidazole
- (xxii) Ipronidazole
- (xxiii) Other nitromidazoles
- (xxiv) Clenbuterol
- (xxv) Diethylstilbestrol (DES)
- (xxvi) Sulfanoamide drugs (except approved Sulfadimethoxine, Sulfabromomethazine and Sulfaethoxypyridazine)
- (xxvii) Fluoroquinolones
- (xxviii) Glycopeptides.

## **CHAPTER 9: Laboratory and Sample Analysis**

### **Part 9.1: Referral Laboratory**

**Regulation 9.1.1: Functions-** In addition to the functions entrusted to it under the Act, the Referral Laboratory shall carry out the following functions, namely:

- 1)** analysis of samples of food sent by any officer or authority authorized by the Food Authority for the purpose and submission of the certificate of analysis to the authorities concerned;
- 2)** investigation for the purpose of fixation of standard of any article of food;
- 3)** investigation in collaboration with the laboratories of Food analysts in the various States and such other laboratories and institutions which the Food Authority may approve on its behalf, for the purpose of standardizing methods of analysis.

- 4) ensuring that the laboratory follows the scientific protocols laid down for handling/testing the articles of food.
- 5) maintaining high standards of accuracy, reliability and credibility in the operation of the laboratory and achieving and maintaining the required levels of accreditation and reliability.
- 6) laying down mechanism for ensuring that personnel of the laboratory adhere to high professional standards and discipline.
- 7) Such other conditions, as the Authority may lay down for Referral Laboratories.
- 8) Capacity building by way of organizing professional training, workshops and seminars for the Food analyst, lab personnel of the lab in the states specified by the Food authority.

**Regulation 9.1.2: State/ Union Territory/ Local Area of Referral Laboratory**

1. The laboratory specified in Col.(1) of Table I below, shall carry out the functions entrusted to it by the Act or these regulations in respect of the local areas specified in the corresponding entry in Col.(2) thereof.

Table-I

Name of the Referral Laboratory		Local Areas/ State / UT
(1)		(2)
1.	Referral Food Laboratory, Kolkata -700016	Arunachal Pradesh, Assam, Chhatisgarh, Manipur, Meghalaya, Mizoram, Nagaland, Orissa, Sikkim, Tripura, Uttarakhand and Union Territories of Andaman and

		Nicobar Island and Lakshadweep
2.	Referral Food Laboratory, Mysore - 570013	Gujarat, Haryana, Himachal Pradesh, Maharashtra, Punjab, Uttar Pradesh and Union Territory of Chandigarh
3.	Referral Food Laboratory, Pune	Andhra Pradesh, Delhi, Jammu and Kashmir, Karnataka, Kerala, Rajasthan and Tamil Nadu
4.	Referral Food Laboratory, Ghaziabad	Bihar, Goa, Jharkhand, Madhya Pradesh, West Bengal, Union Territories of Dadar and Nagar Haveli, Daman & Diu and Pondicherry.

2. The certificate of analysis to be provided by the referral food laboratory shall be as per **Form C, Appendix C**.

### **Regulation 9.1.3: Notified Laboratories for Import**

1. The sample of any imported article will be sent by the authorized officer for analysis. The Food Analyst of any of the following notified laboratories or any other laboratories notified by the food Authority from time to time. having jurisdiction over the area in which the sample was taken.

Sl No.	Name of the laboratory	Local area
1.	Central Food Laboratory, Calcutta	All Seaports/Airports/Container: Depots in the Union Territories/ States of - (i) The Andaman and

		<p>Nicobar Islands, (ii) Andhra Pradesh, (iii) Arunachal Pradesh (iv) Assam (v) Bihar (vi) Manipur (vii) Meghalaya (viii) Mizoram (ix) Nagaland (x) Orissa (xi) Sikkim (xii) Tripura (xiii) West Bengal and (xiv) Jharkhand</p> <p>International borders in the States of - (i)_ Arunachal Pradesh, (ii) Assam, (iii) Bihar (iv) Manipur (v) Meghalaya (vi) Mizoram (vii) Nagaland (viii) Sikkim (ix) Tripura (x) West Bengal</p>
2.	Central Food Laboratory, Ghaziabad	<p>All Airports / Inland Container Depots in the Union Territories/ States of - (i) Chandigarh, (ii) Delhi, (iii) Haryana, (iv) Himachal Pradesh, (v) Jammu and Kashmir (vi) Madhya Pradesh (vii) Punjab (viii) Rajasthan (ix) Uttar Pradesh (x) Chhatisgarh (xi) Uttarakhand</p> <p>All International borders in the states of (i) Himachal Pradesh (ii) Rajasthan (iii) Jammu and Kashmir (iv) Punjab, (v) Uttar Pradesh (vi) and Uttarakhand</p>
3.	Central Food Laboratory,	All Airports/ Inland Container Depots

	Mysore	in the Union territories State of (i) Karnataka, (ii) Kerala, (iii) Lakshadweep, (iv) Puducherry and (v) Tamil Nadu
4.	Central Food Laboratory, Pune	All Airports/ Inland Container Depots in the Union Territories/ States of (i) Dadra and Nagar Haveli, (ii) Daman and Diu, (iii) Goa, (iv) Gujarat and, (v) Maharashtra  All International borders in the state of (i) Gujarat

## **PART 9.2 Procedure of Sampling**

**Regulation 9.2.1: Quantity of sample to be sent to the Food analyst means** the quantity of sample of food to be sent to the Food Analyst /Director for analysis shall be as specified in the regulation by the Authority:

**TABLE 9.2.1**

<b><i>Sr. No</i></b>	<b><i>Article of Food</i></b>	<b><i>Aproximate Quantity to be supplied</i></b>
	(1)	(2)
1.	Milk	500 ml.



2.	Sterilized Milk / UHT Milk	500 ml.
3.	Malai / Dahi	200 gms.
4.	Yoghurt / Sweetened Dahi	500 gms..
5.	Chhana / Paneer / Khoya / Shrikhand	250 gms.
6.	Cheese/Cheese spread	200 gms.
7.	Evaporated Milk/Condensed Milk	200 gms.
8.	Ice-Cream/Softy/Kulfi/Icecandy/Icelolly	300 gms.
9.	Milk Powder/Skimmed Milk Powder	250 gms.
10.	Infant Food/Weaning Food	500 gms.
11.	Malt Food/Malted Milk Food	300 gms.
12.	Butter/Butter Oil/Ghee/Margarine/ Cream/Bakery Shortening	200 gms.
13.	Vanaspati, Edible Oils/Fats	400 gms.
14.	Carbonated Water	3 ltr.
15.	Baking Powder	100 gms.
16.	Arrow root/Sago	250 gms.
17.	Corn flakes/Macaroni Products/Corn Flour/Custard Powder	200 gms.
18.	Spices, Condiments and Mixed Masala (Whole)	500 gms.
19.	Spices, Condiments and Mixed Masala (Powder)	500 gms.
20.	Nutrneg/Mace	250 gms.
21.	Asafoetida	100 gms.
22.	Compounded Asafoetida	150 gms.
23.	Saffron	20 gms.
24.	Gur/jaggery, Icing Sugar, Honey, Synthetic Syrup, Bura	250 gms.
25.	Cane Sugar/Refined Sugar/Cube sugar, Dextrose, Misri/Dried Glucose Syrup.	200 gms.

26.	Artificial Sweetener	100 gm.
27.	Fruit Juice/Fruit Drink/Fruit Squash	1 ltr.
28.	Tomato Sauce/Ketchup/Tomato Paste, jam/jelly/Marmalade/Tomato Puree/Vegetable Sauce	300 gms.
29.	None Fruit Jellies	200 gms.
30.	Pickles and Chutneys	250 gms.
31.	Oilseeds / Nuts /Dry Fruits	250 gms.
32.	Tea/Roasted Coffee/Roasted Chicory	500 gms.
33.	Instant Tea/Instant Coffee/Instant Coffee-Chicory Mixture	100 gms.
34.	Sugar Confectionery/Chewing gum/Bubble Gum	200 gms.
35.	Chocolates	200 gms.
36.	Edible Salt	200 gms.
37.	Lodised Salt/Iron Fortified Salt	200 gms.
38.	Food Grains and Pulses (Whole and Split)	1 kg.
39.	Atta/Maida/Suji/Besan/Other Milled Product/Paushtik and Fortified Atta/Maida	500 gms.
40.	Biscuits and Rusks	200 gms.
41.	Bread/Cakes/Pasties	250 gms.
42.	Gelatin	150 gms.
43.	Catechu	150 gms.
44.	Vinegar/Synthetic Vinegar	300 gms.
45.	Food colour	25 gms.
46.	Food colour preparation (Solid/Liquid)	25 gm. Solid/100 ml liquid
47.	Natural Mineral Water/Packaged Drinking Water	4000ml in

		three minimum original sealed packs.
48.	Silver Leafs	2 gm.
49	Prepared Food	500 gms.
50.	Proprietary Food, (Non Standardised Foods)	500 gms.
51.	Canned Foods	6 sealed cans
52.	Food not specified	500 gms

2. After test or analysis, the certificate thereof shall be supplied forthwith to the sender in **Form D, Appendix C**

3. The fees payable in respect of such a certificate shall be (Rs. 1000) per sample of food analysed as prescribed by the Food Authority.

4. Certificates issued under these regulations by the laboratory shall be signed by the Director.

**5. Preservative in respect of milk, cream, dahi, Khoa or khoa based and Paneer based sweets, such as, Kalakand and Burfi, Chutney and prepared foods and gur prepared coffee and prepared tea** – The preservative used in the case of samples of any milk (including toned, separated and skimmed milk), standardised milk chhanna, skimmed milk channa, cream, ice-candy, dahi, khoa or khoa based and Paneer based sweets, such as Kalakand and Burfi, Chutney and prepared foods and gur coffee and tea in liquid or semi-liquid form shall be the liquid commonly known as "formalin", that is to say, liquid containing about 40 per cent of formaldehyde in aqueous solution in the proportion of 0.1 ml. (two drops) for 25 ml. or 25 grams.

**PROVIDED** that in case of samples of ice-cream and mixed ice-cream, the preservative used shall be liquid commonly known as formalin,

that is to say, a liquid containing about 40 per cent, of formaldehyde in aqueous solution in the proportion of 0.6 ml. for 100 ml. or 100 gms.

## **Chapter 10: Others**

### **Part 10.1: Guarantee**

**Regulation 10.1.1-** Every manufacturer, distributor or dealer selling an article of food to a vendor shall give either separately or in the bill, cash memo, or label a warranty in **Form A**. (*Refer Form A for form of Guarantee*).

## Appendix A : List of Food Additives

### Appendix 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 synonyms as per Codex. The list of food additive as per Codex and the food additives allowed under the Food Safety and Standards Regulations, 2010 are listed in these regulations including Appendices

The list given below as published by Codex as on date (23 -11-2005). 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

<i>Sl. No.</i>	<i>INS Number</i>	<i>Food Additive Name</i>	<i>Technical functions</i>
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
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)	Riboflavin 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 chlorophylls	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	Violoxanthin	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	Tannins, 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, Sequestrant
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 DL-)	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.	330	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, sequestrant, stabilizer Emulsifier, water retention agent
187.	339(iii)	Trisodium orthophosphate	sequestrant, stabilizer, Emulsifier, water retention agent, acidity regulator, Texturizer
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 ethylene-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, NH4 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 Monooleate	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	Emulsifier, stabilizer
280.	444	Sucrose acetate isobutyrate	Emulsifier, stabilizer
281.	445	Glycerol esters of wood resin	Emulsifier, stabilizer
282.	446	Succistearin	Emulsifier
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
288.	450(v)	Tetrapotassium diphosphate	Emulsifier, Stabilizer, acidity regulator, raising agent Sequestrant, 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
291.	450 (viii)	Dimagnesium diphosphate	acidity regulator, texturizer, sequestrant, stabilizer, Emulsifier, water retention Agent
292.	451	Triphosphates	Sequestrant, acidity regulator Texturizer
293.	451(i)	Pentasodium	Sequestrant, acidity regulator, Texturizer
294.	451(ii)	Pentapotassium triphosphate	Sequestrant, acidity regulator, Texturizer
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 NH4)	Emulsifier, Stabilizer, anticaking agent
316.	471	Mono-and di-glycerides of fatty	Emulsifier, Stabilizer



		acids	
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	Tartaric 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, Stabilizers, 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	Diocetyl sodium sulphosuccinate	Emulsifier, wetting agent
332.	481	Sodium lactylate	Emulsifier, Stabilizer
333.	481(i)	Sodium stearoyl lactylates	Emulsifier, Stabilizer
334.	481(ii)	Sodium oleyl lactylate	Emulsifier, Stabilizer
335.	482	Calcium lactylates	Emulsifier, Stabilizer
336.	482(i)	Calcium stearoyl 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 stearoyl fumarate	Emulsifier
341.	486	Calcium stearoyl fumarate	Emulsifier
342.	487	Sodium laurylsulphate	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 tristearate	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
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 acid (D-)	acidity regulator, raising agent
416.	575	Glucono delta-lactone	acidity regulator, raising agent
417.	576	Sodium gluconate	Sequestrant
418.	577	Potassium gluconate	Sequestrant
419.	578	Calcium gluconate	acidity regluator, 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 glutamate	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 Inosate	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	Candeilla 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 Petroleumielly	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	Spermaceti 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 penta- erithrytol 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	Chloropentafluoroethane	Propellant
492.	946	Octafluorocyclobutane	Propellant
493.	948	Oxygen	packing gas
494.	950	Acesulfame potassium	Sweetener, flavour enhancer
495.	951	Aspartame	Sweetener, flavour enhancer
496.	952	Cyclamic acid (and 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 (trichlorogalactosucrose)	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 matitol Syrup	Sweetener, stabilizer, emulsifier
507.	966	Lactitol	Sweetener, texturizer
508.	967	Xylitol	Sweetener, humectant, stabilizer, Emulsifier, thickener
509.	968	Erythritol	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	Emulsifier, 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

## **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 Food Safety and Standards Regulations, 2010 are listed in these including Appendices

The list given below as published by Codex as on date (23-11-2005). 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))

<b>Sl. No.</b>	<b>INS Number</b>	<b>Food Additive Name</b>	<b>Technical functions</b>
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	Alginate 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 sodium 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.	160 f	Beta-apo-8'carotenic acid, methyl or enthyl ester	Colour
59.	160e	Beta-apo-Carotenal	Colour
60.	160a(i)	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	Calcium 5' -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.	924 b	Calcium bromate	flour treatment agent
82.	170(i)	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, Preservative, 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 agent
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 hydroxide	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, firming 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 stearoyl fumarate	Emulsifier
114.	482 (i)	Calcium stearoyl 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.	161 g	Canthaxanthin	Colour
120.	150a	Caramel I-plain	Colour
121.	150 b	Caramel II-caustic sulphite process	Colour
122.	150 c	Caramel III-ammonia process	Colour
123.	150 d	Caramel IV-ammonia sulphite process	Colour
124.	927 b	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.	472 c	Citric and fatty acid esters of glycerol	Emulsifier, Stabilizer, Sequestrant
150.	121	Citrus red 2	Colour
151.	141	Copper chlorophylls	Colour
152.	468	Croscarmellose	Stabilizer, binder
153.	519	Cupric sulphate	colour fixtute, 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, Sequestrant, water retention Agent
171.	628	Dipotassium 5'-guanylate	flavour enhancer
172.	450(iv)	Dipotassium diphosphate	Emulsifier, Stabilizer, acidity, regulator, raising agent, Sequestrant, 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, Sequestrant, water retention Agent
179.	386	Disodium ethylene-diamine-tetra- acetate	Antioxidant, Preservative, Sequestrant
180.	331(ii)	Disodium monohydrogen citrate	acidity regulator, stabilizer, Sequestrant, emulsifier
181.	339(ii)	Disodium orthophosphate	acidity regulator, Sequestrant, 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, Preservative, 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 DL-)	Acidity regulator
254.	472b	Lactic and fatty acid esters of glycerol	Emulsifier, stabilizer,
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)	Magnesium carbonate	acidity regulator, anticaking agent, colour retention agent
267.	504	Magnesium carbonates	acidity regulator, anticaking agent, colour retention agent
268.	511	Magnesium chloride	firiming agent
269.	345	Magnesium citrate	Acidity regulator
270.	580	Magnesium gluconate	acidity regulator, firiming 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 silicate	anticaking agent, dusting Powder
278.	553	Magnesium Silicates	anticaking agent, dusting Powder
279.	518	Magnesium sulphate	firiming 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.	900 b	Methylphenylpolysiloxane	antifoaming agent
293.	460(i)	Microcrystalline cellulose	Emulsifier, anticaking agent, texturizer, dispersing agent
294.	905 c (i)	Microcrystalline wax	glazing agent
295.	905a	Mineral oil, food grade	glazing agent, release agent, sealing agent
296.	472 f	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 (i)	Monoammonium orthophosphate	acidity regulator, flour treatment agent
301.	341 (i)	Monocalcium orthophosphate	acidity regulator, texturizer, flour treatment agent, raising Agent
302.	343 (i)	Monomagnesium orthophosphate	acidity regulator, anticaking Agent
303.	622	Monopotassium glutamate	flavour enhancer
304.	340 (i)	Monopotassium orthophosphate	acidity regulator texturizer, sequestrant stabilizer, emulsifier, water retention Agent
305.	336 (i)	Monopotassium tartrate	Stabilizer, sequestrant
306.	621	Monosodium glutamate	flavour enhancer

307.	339 (i)	Monosodium orthophosphate	acidity regulator texturizer, sequestrant stabilizer, emulsifier, water retention Agent
308.	364 (i)	Monosodium succinate	acidity regulator, flavour Enhancer
309.	335 (i)	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	Nitrogen oxides	flour treatment agent
316.	919	Nitrosyl chloride	flour treatment agent
317.	942	Nitrous oxide	Propellant
318.	411	Oat gum	Thickener, stabilizer
319.	946	Octafluorocyclobutane	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.	905 c (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.	905 b	Petrolatum (petroleum jelly)	glazing agent, release agent, sealing agent
335.	905 c	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 Mono-oleate	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.	924 a	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, Sequestrant, 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.	407 a	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, tenderizer, flavour Enhancer
406.	1101	Proteases	flour treatment agent, Stabilizer, tenderizer, flavour Enhancer
407.	999	Quillaia extracts	foaming agent

408.	104	Quinoline yellow	Colour
409.	128	Red 2G	Colour
410.	161 f	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.	161 d	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, anti caking 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 alumino-silicate	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, Sequestrant, emulsifier, stabilizer
438.	266	Sodium dehydroacetate	Preservative
439.	262 (ii)	Sodium diacetate	Preservative, acidity regulator, Sequestrant
440.	331 (i)	Sodium dihydrogen citrate	acidity regulator, Sequestrant, 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 (i)	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 laurylsulphate	Emulsifier
455.	350 (ii)	Sodium malate	acidity regulator, humectant
456.	350	Sodium malates	acidity regulator, humectant
457.	223	Sodium metabisulphite	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, Sequestrant, emulsifier, Texturizer, Stabilizer, water retention agent
465.	452 (i)	Sodium polyphosphate	Emulsifier, Stabilizer, acidity regulator, raising agent, Sequestrant, water retention Agent
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 stearyl fumarate	Emulsifier
473.	481 (i)	Sodium stearyl lactylate	Emulsifier, stabilizer
474.	514	Sodium sulphates	Acidity regulator
475.	221	Sodium sulphite	Preservative, antioxidant
476.	335	Sodium tartrates	Stabilizer, sequestrant
477.	539	Sodium thiosulphate	Antioxidant, sequestrant
478.	200	Sorbic acid	Preservative
479.	493	Sorbitan monolaurate	Emulsifier
480.	494	Sorbitan mono-oleate	Emulsifier
481.	495	Sorbitan monopalmitate	Emulsifier
482.	491	Sorbitan monostearate	Emulsifier
483.	496	Sorbitan trioleate	Stabilizer, emulsifier
484.	492	Sorbitan tristearate	Emulsifier
485.	420	Sorbitol 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 rapeseed oil	Emulsifier
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.	472 d	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 emulsifier
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.	161 e	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 di-starch 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	Di-starch glycerol	Stabilizer, thickener, binder
545.	1412	Di-starch phosphate esterified with sodium trimetaphosphate; esterified with phosphorus oxychloride	Stabilizer, thickener, binder
546.	1443	Hydroxypropyl di-starch glycerol	Stabilizer, thickener
547.	1442	Hydroxypropyl di-starch phosphate	Stabilizer, thickener
548.	1440	Hydroxypropyl starch	Emulsifier, thickener, binder

549.	1410	Monostarch phosphate	Stabilizer, thickener, binder
550.	1404	Oxidized starch	Emulsifier, thickener, binder
551.	1413	Phosphated di-starch 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,
555.	1405	Starches, enzyme-treated	thickener

**TABLE 1  
LIST OF FOOD ADDITIVES FOR USE IN BREAD AND BISCUITS**

<i>Sl. No</i>	<i>Name of Additive</i>	<i>Bread</i>	<i>Biscuits</i>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>A. Acid Regulators</b>			
1.	Sodium Fumarate	GMP	GMP
2.	Potassium Malate	GMP	GMP
3.	Sodium Hydroxide	GMP	GMP
4.	Acetic Acid or Lactic Acid	2500 ppm maximum	GMP
5.	Citric Acid	-	GMP
6.	Malic Acid	-	GMP
7.	Tartaric Acid	-	GMP
<b>B. Emulsifying and Stabilising Agents singly or in combination</b>		-	Emulsifying and Stabilising agents listed in Regulation 6.1.6 suitable for this product may be used
1.	Sucroglycerides	-	1000ppm maximum
2.	Hydroxypropyl methyl cellulose	GMP	GMP
3.	Sucrose Esters of Fatty Acid	GMP	GMP
4.	Di-Acetyl Tartaric Acid esters of Mono and Di-glycerides	GMP	10000ppm maximum
5.	Guar Gum	5000 ppm maximum	-
6.	Sorbitol	GMP	-
7.	Lecithin	GMP	-
8.	Glycerine	GMP	-
9.	Glycerol	GMP	-

10.	Sodium Steroyl 2 Lactylate of Calcium Stearoyl 2 Lactylate (Singly or in Combination)	5000 ppm maximum	-
11.	Polyglycerol esters of fatty acids and polyglycerol esters of interesterified Ricinoleid Acid	2000 ppm maximum	-
<b>C. Improver</b>			
1.	Fungal Alpha Amylase	100 ppm maximum (on flour mass basis)	-
2.	Bacterial Amylase	GMP	GMP
3.	Amylases and other Enzymes	-	GMP
4.	Ammonium persulphate	2500 ppm maximum (on flour mass basis)	-
5.	Calcium phosphate	2500 ppm maximum (on flour mass basis)	-
6.	Calcium Carbonate	5000 ppm maximum (on flour mass basis)	-
7.	Potassium Bromate and/or Potassium Iodate	50 ppm maximum (on flour mass basis)	-
<b>D. Flour Treatment Agent</b>			
1.	Ammonium Chloride	500 ppm maximum (on flour mass basis)	-
2.	L-cystein Mono Hydrochloride	90 ppm maximum (on flour mass basis)	-
3.	Ammonium Phosphate	2500 ppm maximum (on flour mass basis)	-
4.	Benzoyl Peroxide	40 ppm maximum	40 ppm maximum
<b>E. Antioxidant</b>			As per Regulation 6.1.5
1	Ascorbic Acid	GMP	GMP
<b>F. Preservatives/Mould inhibitors Singly or in combination</b>			
1.	Calcium or sodium propionate	5000 ppm maximum	-
2.	Sorbic acid or its Sodium Potassium or calcium salts (calculated as sorbic acid)	1000 ppm maximum	-
3.	Acid Calcium phosphate	10000 ppm maximum	-
4.	Sodium diacetate	4000 ppm maximum	-
5.	Acid Sodium pyrophosphate	5000 ppm maximum	-
<b>G. Colours ( Can be used singly or in combination within the specified limits)</b>			
(a)	Natural		
1.	Chlorophyll	-	GMP
2.	Caramel	-	GMP

3.	Curcumin or turmeric	-	GMP
4.	Beta- Carotene	-	GMP
5.	Beta spo-8 carotenal	-	GMP
6.	Methylester of Beta-apo-B carotenic Acid	-	GMP
7.	Ethylester of Beta – apo – 8 carotenic acid	-	GMP
8.	Canthaxanthin	-	GMP
9.	Riboflavin, Lactoflavin	-	GMP
10.	Annatto	-	GMP
11.	Saffron	-	GMP
b)	Synthetic		
1.	Ponceau 4R	-	100 ppm maximum
2.	Carmoisine	-	100 ppm maximum
3.	Erythrosine	-	100 ppm maximum
4.	Tartrazine	-	100 ppm maximum
5.	Sunset Yellow FCF	-	100 ppm maximum
6.	Indigo Carmine	-	100 ppm maximum
7.	Brilliant Blue FCF	-	100 ppm maximum
8.	Fast Green FCF	-	100 ppm maximum
<b>H. Artificial Sweeteners ( Singly)</b>			
1.	Aspartame	2200 ppm maximum	2200 ppm maximum
2.	Acesulfame Potassium	1000 ppm maximum	1000 ppm maximum
3.	Sucralose	750 ppm maximum	750 ppm maximum
<b>I. Leavening Agents</b>			
1.	Baking Powder	GMP	GMP
2.	Ammonium Bi-Carbonate	GMP	GMP
3.	Ammonium Carbonate	5000 ppm maximum	5000 ppm maximum
<b>J. Flavours</b>			
1.	Natural Flavours and Natural flavouring substances/ nature identical flavouring substances/ artificial flavouring substances	-	GMP
<b>K. Flavour improver/enhancer</b>			
<b>L Nutrient</b>			
1.	Calcium and Ferrous Salts	-	GMP
2.	Potassium Iodate	-	GMP
<b>M. Dough Conditioners</b>			
1.	Sodium bisulphite	-	GMP
2.	Sodium metabisulphite	-	GMP



<b>N. Yeast</b>	GMP	GMP
<b>O. Jellifying Agents</b>	-	GMP

**Table 2**  
**List of Food Additives for use in Foods**

Sl.No	Additives	3	4	5	6	7	8	9	10	11	12
<b>A . Antioxidants</b>											
1	Tocopherol	GMP	GMP	-	-	-	-	-	-	-	-
2	Lecithin	GMP	GMP	-	-	-	-	-	-	-	-
3	Butylated Hydroxyanisole (BHA)	200 ppm maximum	200ppm maximum	-	-	-	250ppm maximum	-	-	-	-
4	Tertiary butyl hydro quinone (TBHQ)	200 ppm maximum	200ppm maximum	-	-	-	-	-	-	-	-
<b>B . Emulsifier/Stabiliser</b>											
1	Methyl Cellulose	0.5% maximum	0 . 5% maximum	-	-	-	-	-	-	-	-
2	Carboxymethyl Cellulose	0.5% maximum	0 . 5% maximum	-	-	-	-	-	-	-	-
3	Gellan gum	-	-	-	-	-	-	2% maximum (in sugar boiled confectionary only)	-	-	-

1	2	3	4	5	6	7	8	9	10	11	12
<b>C. Preservatives</b>											
1.	Sorbic Acid	-	1000ppm maximum]	0.5% maximum	0.1% maximum	300ppm maximum	-	-	-	-	-
2.	Benzoic Acid	-	300ppm maximum	-	-	-	-	-	-	-	-
<b>D. Anticaking Agents</b>											
1.	Carbonates of calcium and magnesium										
2.	Phosphates of calcium and magnesium										
3.	Silicates of calcium, magnesium or sodium or silicon, dioxide										
4.	Myristates, palmitates or stearates of aluminium, ammonium calcium, potassium or sodium										

1	2	3	4	5	6	7	8	9	10	11	12
<b>E. Artificial Sweetener (Singly)</b>											
1.	Aspartame		200 ppm maximum	-	-	-	10000 ppm maximum	10000 ppm maximum	2000 ppm maximum	3000 ppm maximum	-
2.	Accesulfame K		500 ppm maximum	-	-	-	5000 ppm maximum	3500 ppm maximum	500 ppm maximum	1500 ppm maximum	-
3.	Saccharin Sodium		500 ppm maximum	-	-	-	3000 ppm maximum	3000 ppm maximum	500 ppm maximum	450 ppm maximum	-
4.	Sucralose		750 ppm maximum	-	-	-	-	-	-	-	1500pp m maximum
<b>F. Polyols (singly or in combination)</b>											
1.	Sorbitol	-	GMP	-	-	-	GMP	GMP	GMP	-	GMP
2.	Mannitol	-	GMP	-	-	-	GMP	GMP	GMP	-	GMP
3.	Xylitol	-	GMP	-	-	-	GMP	GMP	GMP	-	GMP
4.	Isomalt	-	-	-	-	-	GMP	GMP	GMP	-	GMP
5.	Lactitol	-	-	-	-	-	GMP	GMP	GMP	-	GMP
6.	Maltitol	-	-	-	-	-	GMP	GMP	GMP	-	GMP
<b>G. Gelling Agents</b>											
1.	Shellac	-	-	-	-	-	-	-	-	-	-
2.	Beeswax (white and yellow)	-	-	-	-	-	-	-	-	-	-
3.	Candelilla wax	-	-	-	-	-	-	-	GMP	-	-
4.	Gum Arabic	-	-	-	-	-	-	-	-	-	-
5.	Pectin	-	-	-	-	-	-	-	-	-	-
<b>H. Bulking Agents</b>											
1.	Polydextrose A and N	-	-	-	-	-	-	-	GMP	-	-]
<b>I. Miscellaneous:</b>											
1.	Sodium Bi-carbonate	-	-	GMP	-	-	-	-	-	-	-
2.	Sodium acetate	-	-	GMP	-	-	-	-	-	-	-
3.	Tartaric Acid	-	-	GMP	-	-	-	-	-	-	-
4.	Citric Acid	-	-	GMP	-	-	-	-	-	-	-
5.	Malic Acid	-	-	GMP	-	-	-	-	-	-	-]

**TABLE 3**  
**FOOD ADDITIVES IN FOODS NOT SPECIFIED**

Sl. No. (1)	Name of the Product (2)	Colours (3)	Preservatives (4)	Emulsifier/Stabiliser (5)	Flavour Enhancer (6)	Anticaking Agent (7)	Acid Regulators (8)	Improver/Leavening Agent (9)	Antioxidants (10)
1	Desert jelly			Carageenan GMP-	-	-	-	-	
2	Dairy based drinks, flavoured and/ or fermented (e.g chocolate, milk, cocoa, eggnog) UHT sterilized milk shelf life more than three months			Carageenan- Singly- GMP Pectin- Singly- GMP Mono and diglycerides of fatty acids - Singly - GMP lecithin - Singly GMP sodium alginate and calcium alginate - singly GMP, Xanthan Gum, singly- GMP, Microcrystalline cellulose- singly GMP, Guar Gum- Singly - GMP	-	-	-	-	
3	Powdered Soft Drink concentrate mix/ fruit beverage drink	Titanium Dioxide 100 ppm maximum, Ponceau 4R/ carmoisine/ Erythrosine/ Tartrazine/ Sunset Yellow FCF/ Indigo Carmine/ Brilliant Blue FCF/ fast green FCF 100 ppm maximum				Sodium Aluminium Silicate - 0.5% maximum			
4	Soups, Bullions and Taste Makers				Di- Sodium 5 Guanylate (Di - Sodium 5- Inosinate) GMP				
5	Custard Powder, Jelly Crstal, Icecandy, Thread, Candies, Wafers	Ponceau 4R/ carmoisine/ Erythrosine/ Tartrazine/ Sunset Yellow FCF/ Indigo Carmine/ Brilliant Blue FCF/ fast green FCF 100 ppm maximum							
6	Flavour Emulsion, Flavour Paste ( for carbonated and non carbonated water only)	Ponceau 4R/ carmoisine/ Erythrosine/ Tartrazine/ Sunset Yellow FCF/ Indigo Carmine/ Brilliant Blue FCF/ fast green FCF 100 ppm maximum as per instructions on the label	Benzoic Acid including salt thereof GMP	Edible Gums ( Arabic and Gum ghatti), glycerols esters of wood resins (ester gum ) - GMP	-				-TBHQ (tertiary butyl hydro quinine and BHA ( butylated hydroxyl anisole) - max 0.01%

Sl. No.	Name of the Product	Colours	Preservatives	Emulsifier/Stabiliser	Flavour Enhancer	Anticaking Agent	Acid Regulators	Improver/Leavening Agent	Antioxidants
7.	Sausages and Sausage meat containing raw meat, cereals and condiments	-	Sulphur dioxide-450ppm maximum	-	-	-	-	-	-
8.	Corn flour and such like Starches	-	Sulphur dioxide-100ppm maximum	-	-	-	-	-	-
9.	Corn syrup	-	Sulphur dioxide-450 ppm maximum	-	-	-	-	-	-
10.	Canned rasgolla (the cans shall be internally lacquered with sulphur dioxide resistant lacquer)	-	Nisin-5 ppm maximum	-	-	-	-	-	-
11.	Gelatin	-	Sulphur dioxide-1000ppm maximum	-	-	-	-	-	-
12.	Beer	-	Sulphur dioxide-70ppm maximum	-	-	-	-	-	-
13.	Cider	-	Sulphur dioxide-200ppm maximum	-	-	-	-	-	-
14.	Alcoholic wines	-	Sulphur dioxide-450ppm maximum	-	-	-	-	-	-
15.	Non-Alcoholic wines	-	Sulphur dioxide-350ppm maximum	-	-	-	-	-	-
16.	Ready-to-serve beverages	-	Sulphur dioxide-70ppm maximum or Benzoic Acid-120ppm maximum	-	-	-	-	-	-
17.	Brewed ginger beer	-	Benzoic Acid-120ppm maximum	-	-	-	-	-	-

Sl. No.	Name of the Product	Colours	Preservatives	Emulsifier/Stabiliser	Flavour Enhancer	Anticaking Agent	Acid Regulators	Improver/Leavening Agent	Antioxidants
18.	Coffee extract	-	Benzoic Acid- 450ppm maximum	-	-	-	-	-	
19.	Danish tinned caviar	-	Benzoic Acid- 50ppm maximum	-	-	-	-	-	
20.	Dried Ginger	-	Sulphur dioxide-2000ppm maximum	-	-	-	-	-	
21.	Flour confectionery	-	Sorbic Acid including Sodium, Potassium and Calcium Salt (Calculated as Sorbic Acid)-1500ppm maximum	-	-	-	-	-	
22.	Smoked fish (in wrappers)	-	Sorbic Acid- only wrapper may be impregnated with Sorbic Acid	-	-	-	-	-	
23.	Dry mixes of Rasgollas	-	Sulphur dioxide-100ppm maximum	-	-	-	-	-	
24.	Preserved Chapaties	-	Sorbic Acid- 1500ppm maximum	-	-	-	-	-	
25.	Fat Spread	-	Sorbic acid and its sodium potassium and calcium salts (calculated as sorbic acid)-1000 ppm maximum or Benzoic Acid and its sodium and potassium salts (Calculated as benzoic acid) or both-1000ppm maximum	-	-	-	-	-	
26.	Prunes	-	Potassium Sorbate (Calculated as Sorbic Acid)-1000ppm maximum	-	-	-	-	-	
27.	Baked food confections and baked foods	-	Ammonia Carbonate-5000ppm maximum Ammonium Bi-carbonate-GMP, Baking Powder-GMP	-	-	-	-	-	

Sl. No.	Name of the Product	Colours	Preservatives	Emulsifier/Stabiliser	Flavour Enhancer	Anticaking Agent	Acid Regulators	Improver/Leavening Agent	Antioxidants
28.	Flour for baked food	-	Sodium Diacetate-2500ppm maximum or Methyl propyl hydroxy Benzoate-500ppm maximum	-	-	-	-	-	
29.	Fruit, fruit pulp or juice (not dried) for conversion into jam or crystallised glaze or cured fruit or other products	-		-	-	-	-	-	
	(a) Cherries	-	Sulphur dioxide-2000ppm maximum	-	-	-	-	-	
	(b) Strawberries and Raspberries	-	Sulphur dioxide-2000ppm maximum	-	-	-	-	-	
	(c) Other fruits	-	Sulphur dioxide-1000ppm maximum	-	-	-	-	-	
	(d) Dehydrated Vegetables	-	Sulphur dioxide-2000ppm maximum	-	-	-	-	-	
30.	Paneer	-	Nisin-12.5ppm maximum	-	-	-	-	-	
31.	Cakes and Pastries	-	Sorbic Acid including Sodium, Potassium and Calcium Salt (Calculated as Sorbic Acid)-1500ppm maximum	Sucroglycerides (only In cakes), Hydroxypropyl Methyl Cellulose, Sucrose Ester of Fatty Acid-GMP	-	-	Sodium, Fumarate, Potassium Malate Sodium hydroxide-GMP	Bacterial Amylase Baking Powder, Ammonium bicarbonate-GMP, Ammonium Carbonate-500ppm maximum	
32.	Prepacked Coconut Water	-	Nisin-5000IU maximum	-	-	-	-	-	
33.	Canned Rasogula	-	Nisin-5.0ppm maximum	-	-	-	-	-	



**Table 4**  
**List of food additives for use in edible oils and fats**

	<b>Name of food additive</b>	<b>Tallow</b>	<b>Lard</b>	<b>Edible vegetable oils and fats</b>	<b>Table Margarine/Bakery and Industrial Margarine/Fat Spread</b>
<b>A</b>	<b>Antioxidants singly or in combination</b>				
1.	Lecithin	GMP	GMP	GMP	GMP
2.	Ascorbic acid	GMP	GMP	GMP	GMP
3.	Propyl gallate, ethyl gallate, octyl gallate, dodecyl gallate or a mixture thereof	100mg/kg max.	100mg/kg max.	100mg/kg max.	200mg/kg max.
4.	Butylated Hydroxy Anisole (BHA)	200mg/kg max.	200mg/kg max.	200mg/kg max.	200mg/kg max.
5.	Any Combination of propyl gallate, BHA within limits of gallate & BHA.	200mg/kg max.	200mg/kg max.	200mg/kg max.	200mg/kg max.
6.	Natural and Synthetic Tocopherols	GMP	GMP	GMP	GMP
7.	Ascorbyl Palmitate/stearate singly or in combination.	500mg/kg max.	500mg/kg max.	500mg/kg max.	500mg/kg max.
8.	Citric Acid, Tartaric Acid, Gallic Acid	GMP	GMP	GMP	GMP
9.	Resin Guaiace	100mg/kg max.	100mg/kg max.	100mg/kg max.	500ppm max.
10.	TBHQ	200mg/kg max.	200mg/kg max.	200mg/kg max.	200ppm max.
<b>B.</b>	<b>Antioxidant Synergists</b>				
1.	Sodium citrate	GMP	GMP	GMP	GMP
2.	Isopropyl Citrate mixture	100 mg/kg max singly or in combination	100 mg/kg max singly or in combination	100 mg/kg max singly or in combination	100 mg/kg max singly or in combination
3.	Phosphoric Acid				
4.	Monoglyceride citrate				
<b>C.</b>	<b>Antifoaming Agents</b>				
1.	Dimethyl polysiloxane singly or in combination with Silicon Dioxide	100 ppm max	10ppm max	10ppm max	-
<b>D.</b>	<b>Emulsifying Agents</b>				
1.	Mono and Di-glycerides of fatty Acids	-	-	-	GMP
2.	Mono and Di-glycerides of fatty acids esterified with acetic, acetyl tartaric, citric, lactic, tartaric acids and their Sodium and Calcium salts	-	-	-	10g/kg max.
3.	Lecithin	-	-	-	GMP
4.	Polyglycerol esters of fatty acids	-	-	-	5g/kg max

5.	1,2-Propylene glycol esters of fatty acids	-	-	-	20g/kg max
6.	Sorbitan Monopalmitate/Sorbitan Monostearate/tristearate	-	-	-	10g/kg max
7.	Sucrose esters of fatty acids	-	-	-	10g/kg max
<b>E. Preservatives (singly or in combination)</b>					
1.	Sorbic Acid	-	-	-	1000mg/kg max, Table Margarine/Fat Spread
2.	Sodium/Potassium/Calcium Sorbate expressed as Sorbic Acid	-	-	-	
3.	Benzoic Acid	-	-	-	
4.	Sodium/Potassium/Benzoate expressed as Benzoic acid	-	-	-	
<b>F. Natural Colours</b>					
1.	Beta-Carotene	-	-	-	25mg/kg max, Table Margarine/Fat Spread
2.	Annatto Extracts (as bixin/norbixin)	-	-	-	20mg/kg max, Table Margarine/Fat Spread
3.	Curcumin or turmeric (as curcumin)	-	-	-	5mg/kg max, Table Margarine/Fat Spread
4.	Beta apo-8'-carotenal	-	-	-	25mg/kg max, Table Margarine/Fat Spread
5.	Methyl and Ethyl Esters of Beta-apo-8'-Carotenoic acid	-	-	-	25mg/kg max, Table Margarine/Fat Spread
<b>G. Acidity Regulators</b>					
1.	Citric Acid	-	-	-	GMP, Table Margarine / Fat Spread
2.	Lactic Acid	-	-	-	
3.	Sodium and Potassium salt of citric and lactic acid	-	-	-	
4.	Calcium Disodium Ethylene diamine tetra acetate	-	-	-	50mg/kg max, Table Margarine / Fat Spread
<b>H. Flavours</b>					
1.	Natural Flavours and Natural Flavouring Substances/Nature-identical Flavouring Substances/Artificial Flavouring Substances	-	-	-	GMP, Table Margarine / Fat Spread
2.	Diacetyl	-	-	-	4 mg/kg max, Table Margarine / Fat Spread ]

**Table 5**  
**List of Food Additives for use in Fish and Fish Products**

	Name of the additive	Frozen Shrimps	Frozen Lobsters	Salted Fish	Frozen finfish	Canned finfish	Canned Shrimps	Canned Sardines	Canned Tuna and Bonito	Canned Crab meat	Frozen Fish Fillets
<b>A</b>	<b>Antioxidants</b>										
1	Ascorbic Acid	GMP	-	-	-	-	-	-	-	-	-
2	Sodium and Potassium Ascorbate singly or in combination expressed as Ascorbic acid	-	1gm/kg maximum	-	1gm/kg maximum	-	-	-	-	-	1gm/kg maximum
<b>B</b>	<b>Acidifying agents</b>										
1	Acetic acid	-	-	-	-	GMP	-	GMP	GMP	-	-
2	Citric acid	GMP	-	-	-	GMP	GMP	GMP	GMP	GMP	1gm/kg maximum in minced fish flesh only
3	Lactic acid	-	-	-	-	GMP	-	GMP	GMP	-	-
<b>C</b>	<b>Moisture Retention Agents singly or in combination including natural phosphate expressed as P2O5</b>										
1	Sodium polyphosphate expressed as P2O5	10gms / kg maximum	10 gms / kg maximum	-	-	-	-	-	400 gms / kg maximum in minced fish flesh only	400 gms / kg maximum in minced fish flesh only	400 gms / kg maximum in minced fish flesh only
2	Potassium polyphosphate expressed as P2O5			-	-	-	-				
3	Calcium polyphosphate expressed as P2O5			-	-	-	-				
4	Orthophosphoric Acid	-	-	-	-	-	850 mg / kg maximum	-	-	-	-

D	Preservatives										
1	Potassium bisulphite expressed as Sulphur dioxide	100mg/Kg maximum raw edible/ 30mg/ Kg maximum cooked product Singly or in combination expressed as SO2	100mg/Kg maximum raw edible/ 30mg/ Kg maximum cooked product Singly or in combination cooked product	-	-	-	-	-	-	-	-
2.	Potassium Sulphite expressed as Sulphur dioxide			-	-	-	-	-	-	-	-
3.	Sodium metabisulphite expressed as sulphur dioxide			-	-	-	-	-	-	-	-
4.	Sodium Sulphite expressed as sulphur dioxide			-	-	-	-	-	-	-	-
5.	Sodium Sorbate expressed as Sorbic Acid	-	-	200 mg / kg maximum singly or in combination expressed as Sorbic Acid	-	-	-	-	-	-	-
6.	Calcium Sorbate expressed as Sorbic Acid	-	-		-	-	-	-	-	-	
7.	Potassium				-	-	-	-	-	-	

	Sorbate expressed as Sorbic Acid										
8.	Sorbic Acid	-	-		-	-	-	-	-	-	-
<b>E</b>	<b>Colours</b>										
1.	Ponceau 4 R	30mg/kg maximum cooked mass	-	-	-	-	-	-	-	-	-
2.	Sunset Yellow	-	-	-	-	-	30 mg/kg maximum singly or in combination -	-	-	-	-
3.	Tartarazine	-	-	-	-	-		-	-	-	-
<b>F</b>	<b>Thickening Agent</b>										
1.	Pectin	-	-	-	-	2.5 gm/kg maximum	-	-	2.5 gm/kg maximum	-	-

2	Tragacanth Gum	-	-	-	-	-	-	20 gm / kg maximum singly or in combination in packing medium only	20 gm / kg maximum singly or in combination in packing medium only	-	-
3	Xanthan Gum	-	-	-	-	-	-			-	-
4	Sodium/Potassium/ Calcium Alginate	-	-	-	-	-	-			-	5mg / kg maximum as Sodium Alginate
5	Carboxy Methyl Cellulose	-	-	-	-	2.5gm / kg maximum	-	-	-	-	-
<b>G Modified Starches</b>											
1	Acid Treated Starch	-	-	-	-	60gm / kg maximum in singly or in combination in packing medium only	-	60gm / kg maximum in singly or in combination in packing medium only	60gm / kg maximum in singly or in combination in packing medium only	-	-
2	Alkali treated Starch	-	-	-	-		-			-	-
3	Balanced starched	-	-	-	-		-			-	-
4	Distarch adipate acetylated	-	-	-	-		-			-	-
5	Distarch glycerol	-	-	-	-		-			-	-
6	Distarch glycerol, acetylated	-	-	-	-		-			-	-
7	Distarch glycerol, hydroxypropyl	-	-	-	-		-			-	-
8	Distarch phosphate	-	-	-	-		-			-	-
9	Distarch phosphate, acetylated	-	-	-	-		-			-	-

10	Distarch phosphate, hydroxypropyl	-	-	-	-		-			-	-
11	Monostarch phosphate	-	-	-	-		-			-	-
12	Oxidized starch	-	-	-	-		-			-	-
13	Starch acetate	-	-	-	-		-			-	-
14	Starch, hydroxypropyl	-	-	-	-		-			-	-
<b>H</b>	<b>Natural Flavours</b>										
1	Natural Flavours and Natural Flavouring substances	-	-	-	-	GMP	-	GMP	GMP	-	-
<b>I</b>	<b>Flavour Enhancers</b>										
1	Monosodium Glutamate	-	-	-	-	-	-	-	-	500 mg / kg maximum	-
<b>J</b>	<b>Sequestering Agents</b>										
1	Calcium Disodium EDTA	-	-	-	-	-	250 mg / kg maximum	-	-	250 mg / kg maximum	-

Table 6

List of Food Additives for use in Thermally Processed Fruits

Sl. No.	Name of Additives	Peaches	Grape Fruits	Pineapple	Plums	Raspberries	Pears	Strawberries	Oranges	Fruit Cocktail / Tropical Fruit Cocktail	Apricot	Palmito	Mangoes	Guava	Chicku	Papaya	Lichi	Kenu	Pomegranate	Custard Apple	Fruits not specified
<b>A. Acidifying Agents (Singly or in Combination)]</b>																					
1.	Acetic Acid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.	Citric Acid	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP
3.	Fumaric Acid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.	Lactic Acid	-	-	-	-	-	GMP	GMP	-	-	-	GMP	-	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP
<b>B. Anticlouding Agent</b>																					
1.	Methyl Cellulose	.	10ppm Max.	.	.	.	.	.	10ppm Max.	.	.	.	.	.	.	.	.	.	.	.	.
<b>C. Antifoaming Agents</b>																					
1.	Dimethyl Polysiloxane	.	.	10ppm Max.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<b>D. Antioxidant</b>																					
1.	Ascorbic Acid	550ppm Max.	550ppm Max.	.	.	.	550ppm Max.	.	550ppm Max.	550ppm Max.	.	550ppm Max.	550ppm Max.	550ppm Max.	550ppm Max.	550ppm Max.	550ppm Max.	550ppm Max.	550ppm Max.	550ppm Max.	550ppm Max.
<b>E. COLOURS (Can be used singly or in combination within the specified limits).</b>																					
(a)	Natural:																				







**TABLE 7**  
**LIST OF FOOD ADDITIVES IN THERMALLY PROCESSED VEGETABLES**

Sl.No.	Name of additive	Canned Tomato	Green Beans/Wax Bean	Sweet Corn/Baby corn	Mushrooms	Green Peas	carrots	Chestnuts / Chestnut Puree	Niger, Groundnut, Sesame, and mustard pastes and other oil	Asparagus	Processed Peas	Ladies Finger	Cauliflower	Brinjal	Sweet Potato	Garkin	Spinach	Table Onions	Garlic	Bell Paper	Rajma	All pulses and dals whole and splits	Other vegetable and curried vegetables/ ready - to - eat vegetables			20			
<b>A Acidifying Agents Singly or in combination</b>																													
1	Acetic Acid	GM P	-	GMP	GM P	-	-	-	-	GM P	-	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	GMP			
2	Citric Acid	GM P	GMP	GMP	GM P	G MP	G M P	GMP	GMP	GM P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	GMP			
3	Lactic acid	GM P	-	-	-	-	-	-	-	GM P	-	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	GMP			
4	L- Tartaric Acid	GM P	GMP	GMP	GM P	G MP	G M P	10g/kg maximum	10g/kg maximum	GM P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	GMP			
5	Malic Acid	GM P	GMP	GMP	GM P	G MP	G M P	GMP	GMP	GM P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	GMP			
<b>B Antioxidants (Singly)</b>																													
1	Ascorbic Acid	-	-	GMP	GM P	-	-	300ppm maximum	300ppm maximum	GM P	-	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	G M P	GMP			
2	BHA	-	-	-	-	-	-	200 ppm maximum	200ppm maximum	-	-	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200		
3	TBHQ	-	-	-	-	-	-	200 ppm maximum	200ppm maximum	-	-	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200		
4	Ascorbyl Palmitate	-	-	-	-	-	-	200 ppm maximum	200ppm maximum	-	-	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200		
<b>C Colours (Can be used singly or in combination within the specified limits)</b>																													
(a) Natural singly or in combination																													







**Table 8**  
**List of Food Additives for use in food products**

Sl. No.	Name of the Additives	Tamand Pulp/Puree & Conc.	Synthetic Syrups for Dispensers	Tomato Puree & Paste	Vinegar	Carbonated fruit beverages or fruit drink	Dehydrated Fruits	Carbonated Water, Softdrink (liquid/powder)	Dehydrated Vegetable, Dehydrated Gario and Dehydrated Onion.]	Frozen Fruit/Fruit Products	Frozen Vegetables	Fruit Based Beverage Mx/Powdered Fruit Based Beverages
<b>A ACIDIFYING AGENTS (Singly or in Combination)</b>												
1	Citric Acid	-		GMP	-	GMP	-	GMP	-	-	-	
2	Fumaric Acid	-		-	-	-	-	-	-	-	-	
3	Lactic Acid	-	GMP	GMP	-	-	-	GMP	-	-	-	GMP
4	L-Tartaric Acid	-		-	-	GMP	-	-	-	-	-	
5	Malic Acid	-		-	-	GMP	-	-	-	-	-	
6	Phosphoric Acids	-	GMP in Cola beverages only	-	-	-	-	GMP in Cola beverages only	-	-	-	
<b>B ANTICAKING AGENTS (Singly or in Combination )</b>												
1	Carbonates of calcium and magnesium	-	-	-	-	-	-	-	2% max. in powders only	-	-	2% max. in powders only
2	Phosphates of calcium and magnesium	-	-	-	-	-	-	-	-	-	-	
3	Silicates of calcium, magnesium, aluminium or sodium or silicon dioxide	-	-	-	-	-	-	-	-	-	-	
<b>C ANTIOXIDANTS</b>												
1	Ascorbic Acid	-	GMP	GMP	-	GMP	GMP	GMP	-	-	-	GMP

D COLOURS (Can be used singly or in combination within the specified limits)														
(a)	Natural:													
1	Chlorophyll	-	200ppm max.				GMP Caramel only				100ppm max.			
2	Caramel	-	200ppm max.				GMP Caramel only				100ppm max.			
3	Curcumin or turmeric	-	200ppm max.				GMP Caramel only				100ppm max.			
4	Beta-carotene	-	200ppm max.				GMP Caramel only				100ppm max.			
5	Beta apo-8 carotenel	-	200ppm max.				GMP Caramel only				100ppm max.			
6	Methylester of Beta-apo-8 carolenic acid	-	200ppm max.				GMP Caramel only				100ppm max.			
7	Ethylester of Beta-apo-8 carolenic acid	-	200ppm max.				GMP Caramel only				100ppm max.			
8	Cantaxanthin	-	200ppm max.				GMP Caramel only				100ppm max.			
9	Riboflavin, Lactoflavin	-	200ppm max.				GMP Caramel only				100ppm max.			
10	Annatto	-	200ppm max.				GMP Caramel only				100ppm max.			
11	Saffron	-	200ppm max.				GMP Caramel only				100ppm max.			
<b>(b) Synthetic</b>														
1	Ponceau 4R	-	200ppm max.				GMP Caramel only				100ppm max.			
2	Carmoisine	-	200ppm max.				GMP Caramel only				100ppm max.			
3	Erythrosine	-	200ppm max.				GMP Caramel only				100ppm max.			
4	Tartrazine	-	200ppm max.				GMP Caramel only				100ppm max.			
5	Sunset Yellow FCF	-	200ppm max.				GMP Caramel only				100ppm max.			
6	Indigo Carmine	-	200ppm max.				GMP Caramel only				100ppm max.			
7	Brilliant blue FCF	-	200ppm max.				GMP Caramel only				100ppm max.			
8	Fast green FCF	-	200ppm max.				GMP Caramel only				100ppm max.			
		200ppm max.				100ppm max.				100ppm max.				
		200ppm max.				100ppm max.				100ppm max.				







**Table 9**  
**List of Food Additives for use in food products**

Sl. No.	Name of Additives	Candied Crystallised & Glazed Fruit	Murabba/Preserve	Squashes, Crushes, Fruit Syrup, Sharbat, Cordal and Barley Water	Ginger Cocktail (Ginger Beer and Gingerale)	Fruit/vegetable Juice, pulp, puree with preservatives for industrial use only.	Concentrated fruit/vegetable Juice, pulp, puree with preservatives for industrial use only.	Cherry (Trimally Processed)	Chutney Fruits and / or Vegetable/ Mango Chutney	Mango Pulp/Puree	Fruit Pulp/Puree	Pickles	Green Chilli Paste, Ginger Paste, Garlic Paste, Onion Paste, Whole Chilli Paste
<b>A ACIDIFYING AGENTS (Singly or in combination).</b>													
1	Acetic Acid	-	-	-	GMP	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	-	-	-	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 Acids	-	-	-	-	-	-	-	GMP	GMP	GMP	-	GMP
<b>B ANTI-FOAMING AGENTS</b>													
1	Dimethyl Polysiloxane	-	-	-	-	-	-	-	10 ppm max.	-	-	-	GMP
2	Mono and diglycerides of fatty acids and edible oils	-	-	-	-	-	-	-	10 ppm max.	-	-	-	GMP
<b>C ANTIOXIDANTS</b>													
1	Ascorbic Acid	-	GMP	GMP	GMP	GMP	GMP	GMP	GMP	-	GMP	-	GMP

<b>D</b>	<b>COLOURS(can be used singly or in combination within the specified limits)</b>														
	<b>(a) Natural</b>														
	1. Chlorophyll	200ppm max.	-	200ppm max (on dilution except cordial and barley water)			200ppm max.	GMP							
	2. Caramel		-												
	3. Curcumin or turmeric		-												
	4. Beta-carotene		-												
	5. Beta apo-8 carotenal		-												
	6. Methylene ester of Beta apo-8-carotenic acid		-		200ppm max.										
	7. Ethylester of Beta apo-8-carotenic acid				200ppm max (on dilution except cordial and barley water)										
	8. Canthaxanthin		-	-				200ppm max							
	9. Riboflavin, Lactoflavin		-	-											
	10. Annatto		-	-											
11. Saffron	-		-												
<b>(b) Synthetic</b>															
1. Ponceau 4R	200ppm max.	-	200ppm max	200ppm max			200ppm max								
2. Carmoisine		-													
3. Erythrosine		-													
4. Tartarazine		-													
5. Sunset yellow FCF		-													
6. Indigo Carmine		-													
7. Brilliant Blue FCF		-													
8. Fast Green FCF		-													
<b>E</b>	<b>FIRMING AGENTS ( Singly or in Combination )</b>														
1. Calcium chloride	GMP	GMP	-	-	-		350ppm maximum	350ppm maximum only on fruit or vegetable pieces							
2. Calcium Lactate	GMP	GMP	-	-	-										
3. Calcium Gluconate	GMP	GMP	-	-	-										
4. Calcium Carbonate	GMP	GMP	--	--	--										
5. Calcium Bisulphite	GMP	GMP	-	-	-										

F	FLAVOURS																					
1	Natural Flavouring and Natural Flavouring Substances	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP
2	Natural Identical Flavouring Substances	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP	GMP
G	PRESERVATIVES (angly or in combination)																					
1	Benzoic Acid & its Sodium & Potassium Salt or both (Calculated as Benzoic Acid)																					
2	Sulphur di-oxide																					
3	Sorbic Acid Calcium Sorbate and Potassium Sorbate expressed as Sorbic Acid																					
H	PROCESSING AIDS																					
1	Sodium Metabi-Sulphite as Sulphur Dioxide																					

I THICKENING AGENTS																	
1	Xanthan Gum	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.5% max.
2	Alginate (Singly or in combination)																
(i)	Ammonium Alginates	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	GMP
(ii)	Calcium Alginates	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	GMP
(iii)	Potassium Alginates	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	GMP
(iv)	Sodium Alginates	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	GMP
(v)	Propyl glycol Alginate	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	GMP
3	Pectines	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.5% max.
J SOFTENING AGENTS (Singly or in Combination)																	
1	Sodium B-Carbonate	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	GMP
2	Sodium Citrate	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	GMP

**Table 10**  
**List of Food Additives for use in food products**

Sl. No.	Name of Additives	Jam/Jellies/Fruit Cheese	Fruit Marmalades	Fruit Bar/Toffee	Fruit Cereal Flakes	Thermally processed fruit beverages / fruit drink / ready to serve fruit beverages	Tomato Ketchup	Culinary Paste/Other Sauces	Soybean Sauce	Soups	Soup powder, Fruit powder, Vegetable powder, Instant Fruit/Vegetable Chutney Mixed (dry), Culinary Powder, Seasoning Mixed Powder	Nectars	Fruit Juices aseptically packed	Vegetable Juices	Concentrated Fruit/Veg Juice/Pulp/Puree
<b>A. ACIDIFYING AGENTS (Singly or in combination)</b>															
1	Acetic Acid	-	-	-	-	-	GMP	GMP	GMP	-	-	GMP	GMP	-	-
2	Citric Acid	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 Acids	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>B. ANTICAKING AGENTS (Singly or in combination)</b>															
1	Carbonates of Calcium and Magnesium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	Phosphates of calcium and Magnesium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	Silicates of calcium, magnesium, aluminium or sodium or silicon dioxide	-	-	-	-	-	-	-	-	-	-	-	-	-	-

C. ANTIFOAMING AGENTS													
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.
D. ANTIOXIDANTS													
1	Ascorbic Acid	GMP	GMP	.	.	.	.	.	.	.	GMP	.	GMP
2	BHA	.	.	.	.	.	.	.	.	.	.	.	.
3	TBHQ	.	.	.	.	.	.	.	.	.	.	.	.
4	Ascorbyl palmitate	.	.	.	.	.	.	.	.	.	.	.	.
E. COLOURS (Can be used singly or in combination within the specified limits)													
(a)	Natural:												
1	Chlorophyll			.	.	.	.	.	.	.	.	.	.
2	Caramel			.	.	.	.	.	.	.	.	.	.
3	Curcumin or turmeric			.	.	.	.	.	.	.	.	.	.
4	Beta-carotene			.	.	.	.	.	.	.	.	.	.
5	Beta apo-8 carotenal			.	.	.	.	.	.	.	.	.	.
6	Methylester of Beta-apo-8 carotenic acid	GMP	GMP	.	.	.	.	.	.	.	GMP for Caramel only	.	GMP
7	Ethylester of Beta apo-8 carotenic acid			.	.	.	.	.	.	.	.	.	.
8	Canthaxanthin			.	.	.	.	.	.	.	.	.	.
9	Riboflavin, Lactoflavin			.	.	.	.	.	.	.	.	.	.
10	Annatto			.	.	.	.	.	.	.	.	.	.
11	Saffron			.	.	.	.	.	.	.	.	.	.





2 Sulphur di-oxide (Carry over from fruit products)	40ppm max.	40ppm max.	100ppm max.	70ppm max.	100ppm max.	100ppm max.	100ppm max.	150ppm max.	50ppm max.	GMP	GMP	GMP	GMP	GMP
3 Sorbic Acid and its Cal., Sod., Pot. Salt (calculated as Sorbic Acid)	50ppm max.	50ppm max.	50ppm max.	300ppm max.	100ppm max.	100ppm max.	100ppm max.	100ppm max.	50ppm max.	-	-	-	-	-
<b>J PROCESSING AIDS</b>														
1 Nitrogen and Carbondioxide	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>K THICKENING AGENTS (Singly or in combination)</b>														
1 Modified Starches	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2 Vegetable Gums (Singly or in combination)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(i) Arabic Gum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(ii) Carrageenan	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(iii) Guar Gum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(iv) Carabibbean Gum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(v) Xanthan Gum	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Table No. 11**  
**List of Food Additives for use in food products**

Sl. No.	Name of Food Additive	Table Olives	Raisins	Dates	Grated Desiccated Coconut	Dry Fruits & Nuts
<b>A Acidifying Agents (Singly or In combination),</b>						
1	Citric Acid	15gm/kg max.	-	-	-	-
2	L-Tartaric Acid	15gm/kg max.	-	-	-	-
3	Acetic Acid	GMP	-	-	-	-
4	Lactic Acid	15gm/kg max.	-	-	-	-
5	Hydrochloric Acid	GMP	-	-	-	-
<b>B Acidity Regulators</b>						
1	Sodium hydroxide	GMP	-	-	-	-
2	Potassium Hydroxide	GMP	-	-	-	-
<b>C Antioxidants</b>						
	L-Ascorbic Acid	0.2gm/kg max.	-	-	-	-
<b>D Preservatives</b>						
1	Sulphur Dioxide, Sodium / Potassium / Calcium Sulphite / bisulphite / metasilphite expressed as SO <sub>2</sub>		1.5gm/kg max. only SO <sub>2</sub>		50mg /kg max. only SO <sub>2</sub>	2.0gm/kg max.
2	Benzoic Acid/ Sodium/ Potassium Benzoate expressed as Benzoic Acid	1gm/kg max.	-	-	-	-
3	Sorbic Acid/Sodium/Potassium ascorbate expressed as sorbic acid	0.5gm/kg max.	-	-	-	0.5gm/kg max. in dried apricot
<b>E Colour retention / stabilizing agents</b>						
1	Ferrous Gluconate	0.15gm/kg max. as total iron	-	-	-	-
2	Ferrous Lactate	0.15 gm/kg max. as total iron	-	-	-	-
<b>F Flavours</b>						
1	Natural Flavours and Natural Flavouring Substances	GMP	-	-	-	-
2	Nature identical flavouring Substances		-	-	-	-
3	Artificial Flavouring Substances					
<b>G Flavour Enhancers</b>						
1	Mono-Sodium Glutamate	5.0 gm/kg max.	-	-	-	-
<b>H Thickening Agents for pastes for stuffing olives</b>						
1	Sodium Alginates	5.0 gm/kg max.	-	-	-	-
2	Xanthan gum	3.0 gm/kg max.	-	-	-	-
3	Carageenan	GMP	-	-	-	-
4	Carobean gum	GMP	-	-	-	-
5	Guar gum	GMP	-	-	-	-

I	Firming Agents for stuffed olives						
1	Calcium Chloride	1.5g/kg max. as Calcium ions in stuffed end product	-	-	-	-	-
2	Calcium Lactate		-	-	-	-	-
3	Calcium Citrate		-	-	-	-	-
J	Miscellaneous						
1	Mineral Oil (food grades)	-	5gm/kg max.	-	-	-	-
2	Sorbitol	-	5gm/kg max.	GMP	-	-	-
3	Glycerol	-		GMP	-	-	-
4	Dimethyl Polysiloxane	-	-	-	-	-	-
5	Carbon Dioxide	GMP	-	-	-	-	-
6	Nitrogen	GMP	-	-	-	-	-
7	Cultures of Lactic Acid	GMP	-	-	-	-	-

**Table 12.**  
**List of Food Additives for use in Sugars and Salts**

Sl. No.	Name of Food Additive	Refined Sugar	Sugar icing / powdered Sugar	Dextrose	Glucose Syrup	Dried Glucose syrup	Edible Common Salt/iodised Salt/iron Fortified Common Salt	Misri, Gur, or Jaggery, Plantain White Sugar, Cube Sugar, Golden Syrup	Khandisari Sugar (Sulphur sugar), Bura Sugar	Khandisari Sugar (Desi)
<b>A. Preservative</b>										
1	Sulphur Dioxide	20 ppm max.	20ppm max.	70 ppm max.	40 ppm max.	40 ppm max. *Sulphur dioxide may be present in an amount not exceeding 150 ppm if the product is intended for manufacture of confectionery to be sold under a label as specified under rule 42(x).	-	70 ppm max.	150 ppm max.	-
<b>B. Anticaking agents singly or in combination</b>										
1	Carbonates of calcium and magnesium	-	-	-	-	-	-	-	-	-
2	Phosphate of calcium and magnesium	-	-	-	-	-	-	-	-	-
3	Silicates of calcium, magnesium, aluminium or sodium or silicon dioxide	-	15 gm/kg max.	-	-	-	20 gm/kg max.	-	-	-
4	Myristates, palmitates or stearates of aluminium, ammonium, Potassium or sodium	-	15 gm/kg max.	-	-	-	-	-	-	-
<b>C. Crystal modifiers</b>										
1.	Calcium, Sodium or Potassium Ferrocyanides singly or in combination expressed as Ferrocyanide	-	-	-	-	-	10 ppm max.	-	-	-

**TABLE 13**  
**LIST OF FOOD ADDITIVES FOR USE IN COCOA POWDER, CHOCOLATE, SUGAR BOILED, CONFECTIONARY, CHEWING GUN/BUBBLE GUM**

**TABLE**

<b>Sl.No.</b>	<b>Name of Additives</b>	<b>Cocoa Powder</b>	<b>Chocolate white Milk, Plain, Composite, Filled</b>	<b>Sugar based/sugar free Confectionary</b>	<b>Lozenges</b>	<b>Chewing Gum/Bubble Gum</b>
<b>A</b>	<b>PRESERVATIVES</b>					
	(singly or in combination)					
1.	Benzoic Acid, Sodium Benzoate, Potassium Benzoate	1500ppm max	1500ppm max	1500ppm max	-	1500ppm max
2.	Sulphur dioxide	2000ppm max.	150ppm max.	2000ppm max.	350ppm max.	2000ppm max.
3.	Sorbic Acid and its Calcium, Sodium, Potassium salts(calculated as sorbic acid)	1500ppm max	1000ppm max.	2000ppm max.	-	1500ppm max
4.	Cass I preservative as listed under regulation 6.1.4	GMP	GMP	GMP	GMP	GMP
<b>B.</b>	<b>ANTICAKING AGENTS</b>					
	(singly or in combination)					
1.	Calcium Phosphate		-	-	-	-
2.	Silicon Dioxide	10 gm/ kg	-	-	-	-
3.	Sodium Aluminium silicate	max.	-	-	10 gm/ kg max.	-
<b>C</b>	<b>COLOURS(can be used singly or in combination within the specified but with in the same</b>					

	<b>class i.e. either natural or synthetic)</b>					
(a)	Natural singly or in combination					
1.	Chlorophyll	-	Max. 100ppm filled chocolate only	GMP	GMP	GMP
2.	Caramel	-				
3.	Curcumin or Turmeric	--				
4.	Beta - Carotene					
5.	Beta-apo-8' carotenal	-				
6.	Ethyl ester of Beta-apo-8'-carotenoic acid					
7.	Methylester of Beta-apo-8'-carotenoic acid	-				
8..	Canthaxanthin	-				
9.	Riboflavin (Lactoflavin)	-				
10.	Annatto	--				
11.	Saffron	-				

<b>(D) Synthetic colour and inorganic colouring matter (singly or in combination)</b>									
1	Erythrosine	-	-	-	-	-	-	-	-
2	Carmoisine	-	-	-	-	-	-	-	-
3	Ponceau 4R	-	-	-	-	-	-	-	-
4	Fast Green FCF	-	-	-	-	-	-	-	-
5	Indigo Carmine	-	-	-	-	-	-	-	-
6	Brilliant Blue-FCF	-	-	-	-	-	-	-	-
7	Sunset Yellow FCF	-	-	-	-	-	-	-	-
8	Tartrazine	-	-	-	-	-	-	-	-
9	Titanium Dioxide	-	-	-	-	-	-	-	-
<b>D. FLAVOURS (singly or in combination)</b>									
1	Natural Flavour and Natural Flavouring substances / Nature identical flavouring substances / Artificial Flavouring Substances	-	-	-	-	-	-	-	-
2	Vanillin	-	-	-	-	-	-	-	-
3	Ethyl Vanillin	-	-	-	-	-	-	-	-
<b>E. EMULSIFIER (singly or in combination)</b>									
1	Mono and Diglycerides of edible fatty acids	-	-	-	-	-	-	-	-
2	Lecithin	-	-	-	-	-	-	-	-
3	Ammonium Salts of Phosphoric acids	-	-	-	-	-	-	-	-
4	Sucrose esters of fatty acids	-	-	-	-	-	-	-	-
5	Polyglycerol polyricinoleate	-	-	-	-	-	-	-	-
6	Sorbitan monostearate	-	-	-	-	-	-	-	-
7	Sorbitan tristearate	-	-	-	-	-	-	-	-
8	Polyxyethylene Sorbitan monostearate	-	-	-	-	-	-	-	-
9	Carageenan	-	-	-	-	-	-	-	-
10	Modified starches	-	-	-	-	-	-	-	-
11	Glycerol	-	-	-	-	-	-	-	-
<b>F. ALKALIZING AGENTS (singly or in combination)</b>									
1	Sodium, Potassium, Calcium, Magnesium, Ammonium carbonates	-	-	-	-	-	-	-	-
2	Sodium, Potassium, Calcium, Magnesium, Bicarbonates as K <sub>2</sub> CO <sub>3</sub>	-	-	-	-	-	-	-	-
3	Sodium, Potassium, Calcium, Magnesium, Ammonium Hydroxide	-	-	-	-	-	-	-	-



G. NEUTRALIZING AGENTS / ACIDULENTS						
1	Phosphoric Acid	2.5 gm/kg max. as P2O5 on cocoa fraction	2.5 gm/kg max. as P2O5	1300 ppm max. as P2O5	-	2200 ppm max. as P2O5
2	Citric Acid	GMP	GMP	GMP	GMP	GMP
3	L-Tartaric Acid	5 gm/kg max.	5 gm/kg max.	2000 ppm max.	GMP	3000 ppm max.
4	Sodium Hexameta Phosphate	-	-	GMP as buffering agent	-	-
5	Malic Acid	-	GMP	GMP	GMP	GMP
H. ANTIOXIDANTS						
1	BHA	-	200 ppm max.	100 ppm max.	-	250 ppm max.
2	TBHQ	-	200 ppm max.	100 ppm max.	-	250 ppm max.
3	Tocopherol	-	750 ppm max.	500 ppm max.	GMP	1500 ppm max.
4	Ascorbyl Palmitate	-	200 ppm max.	-	-	-
5	Propylgallate	-	200 ppm max.	-	-	-
6	L-Ascorbic Acid	GMP	GMP	GMP	GMP	GMP
7	Lecithin	GMP	GMP	GMP	GMP	GMP
I. JELLYFYING AGENTS						
1	Gelatine (Food Grade)	-	-	GMP	-	-
2	Agar Agar	-	-	-	-	-
3	Sodium Carboxy Methyl Cellulose	-	-	-	-	-
J LUBRICANTS						
1	Talc	-	-	0.2 percent max.	0.2 percent max.	0.2 percent max.
2	Icing Sugar	-	-	GMP	GMP	GMP
3	Mineral Oil	-	-	0.2 percent max.	0.2 percent max.	0.2 percent max.
4	Glycerine	-	-	GMP	GMP	GMP
5	Paraffin Wax or Liquid Paraffin (Food Grade)	-	-	GMP	GMP	GMP
6	Calcium / Magnesium / Sodium Salt of Stearic Acid, Stearic Acid	-	-	GMP	GMP	GMP
K	MISCELLANEOUS (Food Grade)	-	-	-	-	-
1	Phosphated Starch	-	-	-	-	GMP ]



4.	Gelatine	-	-	-	10gm/kg maximum	-	-	-	-	-	-	-	-	
5.	Lectins	-	-	-	-	-	-	-	-	2.5 gm/kg maximum	-	-	-	
6.	Pectins	-	-	-	10gm/kg maximum	-	-	-	-	-	10 gm/kg maximum	-	-	
7.	Sodium carboxy methyl cellulose	-	-	-	5gm/kg maximum	-	-	-	-	-	10gm/kg maximum	-	-	
8.	Agar	-	-	-	5 gm/kg maximum	-	-	-	-	-	10 gm/kg maximum	-	-	
9.	Guar gum	-	-	-	5 gm/kg maximum	-	-	-	-	-	10 gm/kg maximum	-	-	
10.	Xanthan gum	-	-	-	5 gm/kg maximum	-	-	-	-	-	10gm/kg maximum	-	-	
11.	Tragacanth gum	-	-	-	5 gm/kg maximum	-	-	-	-	-	-	-	-	
12.	Karaya gum	-	-	-	5 gm/kg maximum	-	-	-	-	-	-	-	-	
13.	Purocellaran	-	-	-	5gm/kg maximum	-	-	-	-	-	10 gm/kg maximum	-	-	
14.	Propylene glycol alginate	-	-	-	-	-	-	-	-	-	10 gm/kg maximum	-	-	
15.	(a) Poly Glycerol Esters of Fatty acids	-	-	-	-	-	-	-	-	-	10 gm/kg maximum	-	-	
	(b) Polyoxy ethylene sorbitan monolaurate												-	-
	(c) Polyoxy ethylene sorbitan tristearate												-	-
	(d) Polyoxy ethylene sorbitan monostearate												-	-
16.	Mono-and diglycerides of fatty acids	-	-	-	-	-	-	-	-	2.5 gm/kg maximum	10 gm/kg maximum	-	-	
17.	Methyl cellulose	-	-	-	-	-	-	-	-	-	10 gm/kg maximum	-	-	

<b>B.</b>	<b>Thickener and Modifying Agents singly or in combination:</b>																
1.	Micro-crystalline cellulose	-	-	-	-	-	-	-	-	-	10 gm/kg maximum	-	-	-			
<b>C.</b>	<b>Modified starches singly or in combination</b>																
1.	Acid-treated starch	-	-	-	-	-	-	-	-	-	30.0 gm/kg maximum subject to declaration	-	-	-			
2.	Alkaline-treated starch	-	-	-	-	-	-	-	-	-		-	-	-			
3.	Bleached starch	-	-	-	-	-	-	-	-	-		-	-	-			
4.	Acetylated distarch adipate	-	-	-	-	-	-	-	-	-		-	-	-			
5.	Distarch glycerol	-	-	-	-	-	-	-	-	-		-	-	-			
6.	Acetylated distarch glycerol	-	-	-	-	-	-	-	-	-		-	-	-			
7.	Hydroxypropyl distarch glycerol	-	-	-	-	-	-	-	-	-		-	-	-			
8.	Distarch phosphate	-	-	-	-	-	-	-	-	-		-	-	-			
9.	Acetylated distarch phosphate	-	-	-	-	-	-	-	-	-		-	-	-			
10.	Hydroxypropyl distarch phosphate	-	-	-	-	-	-	-	-	-		-	-	-			
11.	Monostarch phosphate	-	-	-	-	-	-	-	-	-		-	-	-			
12.	Oxidized starch	-	-	-	-	-	-	-	-	-		-	-	-			
13.	Starch acetate	-	-	-	-	-	-	-	-	-	30.0 gm/kg maximum subject to declaration	-	-	-			
14.	Hydroxypropyl Starch.	-	-	-	-	-	-	-	-	-	-	-	-				

D. Flavours :-														
1.	Vanilla Extracts	-	-	-	-	-	-	-	-	-	-	-	-	-
2.	Vanillin	-	-	-	-	-	-	-	-	-	-	-	-	-
3.	Ethyl Vanillin	-	-	-	-	-	-	-	-	-	-	-	-	-
4.	Natural Flavouring and Natural Flavouring Substances / Nature identical Flavouring substances/ artificial flavouring substances	-	-	-	GMP subject to declaration			-	-	-	-	GMP subject to declaration		
E. Colours (Natural – Singly or in combination):-														
1.	Curcumin	100 mg/kg maximum	100 mg/kg maximum	100 mg/kg maximum	-	-	-	100 mg/kg maximum	-	-	100 mg/kg maximum	-	-	-
2.	Riboflavin	100 mg/kg maximum	100 mg/kg maximum	100 mg/kg maximum	-	-	-	-	-	-	50 mg/kg maximum	-	-	-
3.	Chlorophyll	100 mg/kg maximum	100 mg/kg maximum	100 mg/kg maximum	-	-	-	-	-	-	-	-	-	-
4.	Beta Carotene	100 mg/kg maximum	-	-	-	-	-	100 mg/kg maximum	-	-	100 mg/kg maximum	-	-	-
5.	Carotene (natural extract)	100 mg/kg maximum	100 mg/kg maximum	100 mg/kg maximum	-	-	-	100 mg/kg maximum	-	-	-	-	-	-
6.	Annatto Extracts on bixin / norbixin basis (50:50 ratio)	10-50 mg/kg maximum Normal to Orange coloured	10-50 mg/kg maximum Normal to Orange coloured	10-50 mg/kg maximum Normal to Orange coloured	-	-	-	20 mg/kg maximum	-	-	100 mg/kg maximum	-	-	-
7.	Beta apo carotenal	35 mg/kg maximum	-	-	-	-	-	35 mg/kg maximum	-	-	100 mg/kg maximum	-	-	-
8.	Methyl ester of Beta apo 8 carotenolic acid	35 mg/kg maximum	-	-	-	-	-	35 mg/kg maximum	-	-	100 mg/kg maximum	-	-	-

9.	Ethyl ester of Beta apo 8 carotenoic Acid													
10.	Canthaxanthin										100 mg/kg maximum			
11	Caramel Colours (Plain)										GMP			
12	Caramel Colours (Ammonium Sulphite Process)										3.0 gm/kg maximum			
E. Colours (Synthyetic – Singly or in combination)														
13	(a) Ponceau 4R (b) Carmoisine, (c) Erythrosine, (d) Tartrazine (e) Sunset Yellow FCF, (f) Indigo Carmine (g) Brilliant Blue FCF (h) Fast Green FCF singly or in combination				100 ppm maximum (only in flavoured yoghurt)						100 mg/kg maximum			
F. Acidity Regulators														
1.	Calcium Carbonates Magnesium	GMP										GMP		

	Carbonates													
2.	Sodium bicarbonate, Sodium Carbonate													
3.	Sodium Hydroxide, Calcium Hydroxide							2000 mg/kg maximum				2000mg/kg maximum		
4.	Sodium Phosphate							GMP				GMP		
	G. Preservatives													
1.	Sorbic Acid, Sodium Sorbate, Potassium Sorbate, Calcium Sorbate expressed as sorbic Acid	3000 mg/kg maximum for cut sliced & shredded cheese 1000 mg/kg maximum	3000 mg/kg maximum											2000 mg/kg maximum

2.	NaCl	12.5 mg/kg maximum	12.5 mg/kg maximum	12.5 mg/kg maximum	-	-	-	-	-	-	-	-	-	-	12.5 mg/kg maximum
3.	Propionic Acid / Sodium Propionate / Calcium propionate expressed as propionic acid- Singly or in Combination	3000 mg/kg maximum	-	-	-	-	-	-	-	-	-	-	-	-	2,000 mg/kg maximum
<b>H. For Surface/In-Kind Treatment only:-</b>															
1.	Sorbic Acid / Potassium Sorbate / Calcium Sorbate expressed as sorbic acid singly or in combination	1 gm/kg maximum	-	-	-	-	-	-	-	-	-	-	-	-	-
2.	Imazacil (natamycin)	2 mg/dm sq surface. Not present in depth of 5 mm	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>I. Anticaking Agents:</b>															
1.	(a) Cellulose, (b) Carbonates of Calcium and Magnesium, (c) Phosphates of Calcium and Magnesium, (d) Silicates of calcium, magnesium, aluminium or sodium or Silicon dioxide (e) myristates, palmitates or Stearates of aluminium, ammonium, calcium potassium or sodium	10 gm/kg maximum	-	-	-	-	-	-	-	-	-	-	-	-	-



J. Acidifying Agents singly or in combination :-														
1.	Citric Acid	-	40 gm/kg maximum with emulsifiers	40 gm/kg maximum with emulsifiers	-	-	-	-	-	-	GMP including Sod/Pot Salts	-	-	-
2.	Phosphoric Acid	-	40 gm/kg maximum with emulsifiers	40 gm/kg maximum with emulsifiers	-	-	-	-	-	-	-	-	-	-
3.	Acetic Acid	-	40 gm/kg maximum with emulsifiers	40 gm/kg maximum with emulsifiers	-	-	-	-	-	-	GMP	-	-	-
4.	Lactic Acid	-	40 gm/kg maximum with emulsifiers	40 gm/kg maximum with emulsifiers	-	-	-	-	-	-	GMP including Sod/Pot Salts	-	-	-
5.	Sodium bicarbonate / Calcium Carbonate expressed as Anhydrous substances	-	40 gm/kg maximum with emulsifiers	40 gm/kg maximum with emulsifiers	-	-	-	-	-	-	-	-	-	-
6.	Malic acid (DL-)	-	-	-	-	-	-	-	-	-	GMP	-	-	-
7.	L-(+ Tartaric Acid & Sodium / Potassium Salts)	-	-	-	-	-	-	-	-	-	1 gm/kg maximum	-	-	-
8.	Sodium Hydrogen Carbonate	-	-	-	-	-	-	-	-	-	GMP	-	-	-
9.	(a) Sodium / Potassium / Calcium Orthophosphate expressed as $P_2O_5$	-	-	-	-	-	-	-	-	-	2 gm/kg maximum singly or in combination with as $P_2O_5$	-	-	-
	(b) Sodium / Potassium Polyphosphate expressed as $P_2O_5$													

K. Emulsifiers in singly or in combination:-														
1.	(a) Potassium salt of mono/di and poly phosphoric acid, (b) Calcium salt of mono / di and poly phosphoric acid, (c) Sodium salt of mono/di and poly phosphoric acid	-	40 gm/kg maximum except that added phosphorus compound should not exceed 9 g/kg calculated as Phosphorus	40 gm/kg maximum except that added phosphorus compound should not exceed 9 g/kg calculated as Phosphorus	-	-	-	-	-	-	-	-	-	-
2.	(a) Sodium Citrate, (b) Potassium Citrate and (c) Calcium Citrate	-	-	-	-	-	-	-	-	-	-	-	-	-
3.	(a) Citric acid with Sodium hydrogen carbonate and or Calcium carbonate (b) phosphoric acid with sodium hydrogen carbonate and or calcium carbonate	-	-	-	-	-	-	-	-	-	-	-	-	-
L. Antioxidants singly or in combination:-														
1.	L-Ascorbic acid	-	-	-	-	-	-	-	0.5 gm/kg maximum	-	-	-	-	-
2.	Ascorbyl Palmate, ascorbyl Stearate	-	-	-	-	-	-	500 mg/kg maximum	0.5 gm/kg maximum as ascorbic acid only in cream powder	-	-	-	-	-
3.	Alpha tocopherols, Mixed Tocopherols	-	-	-	-	-	-	-	-	-	-	-	-	-
4.	Propyl gallate	-	-	-	-	-	-	100 mg/kg maximum	-	-	-	-	-	-

5.	Octyl gallate	-	-	-	-	-	-	-	100 mg/kg maximum	-	-	-	-	-
6.	Ethyl gallate	-	-	-	-	-	-	-	100 mg/kg maximum	-	-	-	-	-
7.	Dodecyl gallate	-	-	-	-	-	-	-	100 mg/kg maximum	-	-	-	-	-
8.	Butylated hydroxy anisole	-	-	-	-	-	-	-	175 mg/kg maximum	100 mg/kg maximum	-	-	-	-
<b>M. Antioxidant Synergists:-</b>														
1.	Citric Acid	-	-	-	-	-	-	-	GMP	GMP	-	-	-	-
<b>N. Miscellaneous:-</b>														
1.	Glycerol	-	-	-	-	-	-	-	-	-	50 gm/kg maximum	-	-	-

**TABLE -15**  
(Use of food additives in individual variety cheeses)

	Name of Food Additives	Cheddar	Danbo	Edam	Gouda	Havarti	Sansoe	Emmentaler	Tilsiter	Saint-Paulin	Provolone	Cottage/ Creamed Cottage	Coulommiers	Cream Cheese	Camembert	Brie	Extra Hard Grating Cheese
<b>A</b>	<b>Stabilizers:-</b>																
1.	Calcium Chloride	200 mg/kg of milk maximum	200 mg /kg of Milk maximum	200 mg /kg of Milk maximum	200 mg/kg of Milk maximum	200 mg/kg of Milk maximum	200 mg/kg of milk maximum	200 mg/kg of Milk maximum	200 mg/kg of Milk maximum	200 mg/kg of Milk maximum	200 mg/kg of Milk maximum	200 mg/kg of Milk maximum	200 mg/kg of Milk maximum	-	200 mg/kg of Milk maximum	200 mg/kg of Milk maximum	200 mg/kg of Milk maximum



B. Colour-																			
1.	Annatto																		
2	Beta Carotene	600 mg/kg maximum	600 mg/kg maximum	600 mg/kg maximum	600 mg/kg maximum	600 mg/kg maximum	600 mg/kg maximum	600 mg/kg maximum	600 mg/kg maximum	600 mg/kg maximum			600 mg/kg maximum		600 mg/kg maximum	600 mg/kg maximum			
3	Riboflavin								GMP										
4	Chlorophyll																15 mg/kg maximum		
C. Enzymes																			
(1)	Alpha Amylase ( <i>Aspergillus Oryzae var.</i> )	1 gm / kg of milk solids maximum																1 gm / kg of milk solids maximum	
(2)	Alpha- amylase ( <i>Bacillus Megaterium</i> expressed in <i>Bacillus Subtilis</i> )																		
(3)	Alpha- amylase ( <i>Bacillus stearo themophilus</i> expressed in <i>B. Subtilis</i> )																		
(4)	Alpha amylase ( <i>Bacillus stearo themophilus</i> )																		
(5)	Alpha amylase (																		

	<i>Bacillus subtilis</i> )																
(6)	Alpha amylase ( Carbohydase ) <i>Bacillus licheniformis</i> ) enzymes from GMO should be labelled																
D. Preservatives																	
1.	Sorbic Acid, Sodium Sorbate, Potassium sorbate calculated as sorbic acid	1 gm / kg maximum															3 gm / kg maximum

E. Thickening Agents singly or in combination >-																		
1.	Carrageenan	-	-	-	-	-	-	-	-	-	-	-	-	-	5 gm/kg maximum	-	-	-
2.	Guar Gum	-	-	-	-	-	-	-	-	-	-	-	-	-	5 gm/kg maximum	-	-	-
3.	Karaya Gum	-	-	-	-	-	-	-	-	-	-	-	-	-	5 gm/kg maximum	-	-	-
4.	Tragacanth Gum	-	-	-	-	-	-	-	-	-	-	-	-	-	5 gm/kg maximum	-	-	-
5.	Xanthan Gum	-	-	-	-	-	-	-	-	-	-	-	-	-	5 gm/kg maximum	-	-	-
6.	Alginate of Sodium / Potassium / Calcium	-	-	-	-	-	-	-	-	-	-	-	-	-	5 gm/kg maximum	-	-	-
7.	Ammonium Alginate	-	-	-	-	-	-	-	-	-	-	-	-	-	5 gm/kg maximum	-	-	-
8.	Gelatine	-	-	-	-	-	-	-	-	-	-	-	-	-	5 gm/kg maximum	-	-	-
9.	Pectins	-	-	-	-	-	-	-	-	-	-	-	-	-	5 gm/kg maximum	-	-	-
10.	Propylene Glycol Alginate	-	-	-	-	-	-	-	-	-	-	-	-	-	5 gm/kg maximum	-	-	-

## APPENDIX B: Microbiological Requirements:

TABLE 1  
MICROBIOLOGICAL REQUIREMENTS FOR SEA FOODS

Sl No	Name of the product	Total Plate count	E. Coli	Staphylococcus aureus	Salmonella & Shigella	Vibro Cholerae	Vibro Parahaemolyticus	Clostridium perfringens
1.	Frozen shrimps or prawns							
	Raw	Not more than five lakhs /gm	Not more than 20/gm	Not more than 100 / gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	—
	Cooked	Not more than one lakh /gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	—
2.	Frozen Lobsters							
	Raw	Not more than five lakhs /gm	Not more than 20/gm	Not more than 100 / gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	—
	Cooked	Not more than one lakh /gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	—
3.	Frozen	Not more than five lakhs /gm	Not more than 20/gm	Not more than 100 / gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	—
4.	Frozen finfish	Not more than five lakhs /gm	Not more than 20/gm	Not more than 100 / gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	—
5	Frozen fish fillets or	Not more than five lakhs /gm	Not more than 20/gm	Not more than 100 / gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	—



Sl No	minced fish flesh or mixtures thereof Name of the product	Total plate count	E. Coli	Staphylococcus aureus	Salmonella & Shigella	Vibro cholerae	Vibro parahaemolyticus	Clostridium perfringens
6	Dried Shark fins	Not more than five lakhs / gm	Not more than 20 / gm	Not more than 100 / gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	—
7.	Salted fish / dried salted fish	Not more than five lakhs / gm	Not more than 20 / gm	Not more than 100 / gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	—
8.	Canned finfish	Nil	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm
9.	Canned shrimp	Nil	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	—
10.	Canned sardines or sardine type products	Nil	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	—
11.	Canned salmon	Nil	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	—
12.	Canned crab meat	Nil	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	—

13.	Canned tuna and Bonito	Nil	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	— —
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TABLE 2\*  
MICROBIOLOGICAL PARAMETER FOR MILK PRODUCTS

Sl No	Requirements	Ice cream / Frozen Dessert / Milk Lolly / Ice Candy / Dried Ice Cream mix	Cheese / Processed Cheese / Cheese Spread / All other Cheeses	Evaporated Milk Sweetened Condensed Milk	Sweetened Condensed Milk	Butter	Butter Oil / Butter Fat / Ghee	Yoghurt / Dahi
1	Total Plate Count	Not more than 2,50,000 / gm	Not more than 50,000 / gm	Not more than 500 / gm	Not more than 500 / gm	Not more than 5000 / gm	Not more than 5000 / gm	Not more than 10,00,000 / gm
2	Coliform Count	Not more than 10 / gm	Absent in 0.1 gm	Absent in 0.1 gm	Absent in 0.1 gm	Not more than 5 / gm	Absent in 1.0 gm	Not more than 10 / gm
3	E. Coli	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm	Absent in 1.0 gm
4	Salmonella	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm
5	Shigella	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm
6	Staphylococcus aureus	Absent in 1 gm	Absent in 1 gm	Not more than 100 / gm	Not more than 100 / gm	Absent in 1 gm	Absent in 1 gm	Not more than 100/gm
7	Yeast and Mould Count	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm	Not more than 10 / gm	Not more than 20 / gm	Absent in 1 gm	Not more than 100/gm
8	Anaerobic Spore Count	Absent in 1 gm	Absent in 1 gm	Not more than 5 / gm	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm
9	Listeria monocytogens	Absent in 1 gm	Cheese other than hard cheese: Absent in 25 gm Hard cheese: Absent in 1 gm	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm

Sl No	Requirements	Milk powder / Cream Powder / Whey powder	Edible Casein Products	UHT Milk / UHT flavoured Milk	Pasteurised Milk / Boiled / Pasteurised Flavoured milk	Sterilized Milk / Sterilized Flavoured Milk	Khoya / Chhana / Paneer	Chakka / Srikhand
1	Total Plate Count	Not more than 50,000 / gm	Not more than 50,000 / gm	Nil	Not more than 30,000 / gm	Nil	Not more than 50,000 / gm	Not more than 50,000 / gm
2	Coliform Count	Absent in 0.1 gm	Absent in 0.1 gm	Absent in 0.1 gm	Absent in 0.1 gm	Absent in 0.1 gm	Not more than 90 / gm	Not more than 10 / gm
3	E. Coli	Absent in 0.1 gm	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm
4	Salmonella	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm
5	Shigella	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm
6	Staphylococcus aureus	Absent in 0.1 gm	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm	Not more than 100 / gm	Not more than 100 / gm
7	Yeast and Mould Count	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm	Not more than 250 / gm	Chakka: Not more than 10 / gm Shrikhand: Not more than 50 / gm
8	Anaerobic Spore Count	Absent in 1 gm	Absent in 1 gm	Not more than 5 / gm	Absent in 1 gm	Not more than 5 / gm	Absent in 1 gm	Absent in 1 gm
9	Listeria monocytogens	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm	Absent in 1 gm

\*The above mentioned standards are deferred till 6th September 2010 and will be enforced after 7th September, 2010.

TABLE 3  
MICROBIOLOGICAL PARAMETER FOR SPICES

No	Requirements	Caraway (Shiahjira)	Cardomom (Elaichi)	Chillies and Capsicum (Lal Mirchi)	Cinnamon (dalchini)	Cassia (Taj)	Cloves (Laung)	Coriander (Dhania)
1	Total Plate Count	-	-	-	-	-	-	-
2	Coliform Count	-	-	-	-	-	-	-
3	E. Coli	-	-	-	-	-	-	-
4	Salmonella	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm
5	Shigella	-	-	-	-	-	-	-
6	Staphylococcus aureus	-	-	-	-	-	-	-
7	Yeast and Mould Count	-	-	-	-	-	-	-
8	Anaerobic Spore Count	-	-	-	-	-	-	-
9	Listeria monocytogens	-	-	-	-	-	-	-

Sl No	Requirements	Cumin (Zeera, Kalaunji)	Fennel (Saunf)	Fenugreek (Methi)	Ginger (Sonth, Adrak)	Mace (Jaipatri)	Mustard (Rai, Sarson)	Nutmeg (Jaiphal)
1	Total Plate Count	-	-	-	-	-	-	-
2	Coliform Count	-	-	-	-	-	-	-
3	E. Coli	-	-	-	-	-	-	-
4	Salmonella	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm
5	Shigella	-	-	-	-	-	-	-

6	Staphylococcus aureus	-	-	-	-	-	-	-
7	Yeast and Mould Count	-	-	-	-	-	-	-
8	Anaerobic Spore Count	-	-	-	-	-	-	-
9	Listeria monocytogens	-	-	-	-	-	-	-

Sl No	Requirements	Pepper Black (Kalimirsch)	Poppy (Khas Khas)	Saffron (Kesar)	Turmeric (Haladi)	Curry Powder	Mixed Masala	Aniseed (Saunf)
1	Total Plate Count	-	-	-	-	-	-	-
2	Coliform Count	-	-	-	-	-	-	-
3	E. Coli	-	-	-	-	-	-	-
4	Salmonella	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	Absent in 25 gm	-	-	Absent in 25 gm
5	Shigella	-	-	-	-	-	-	-
6	Staphylococcus aureus	-	-	-	-	-	-	-
7	Yeast and Mould Count	-	-	-	-	-	-	-
8	Anaerobic Spore Count	-	-	-	-	-	-	-
9	Listeria monocytogens	-	-	-	-	-	-	-

Sl No	Requirements	Ajowan (Bishops seed)	Dried Mango Slices	Dried Mango Powder (Amchur)	Pepper White	Garlic (Lahsun)	Celery	Dehydrated Onion (Sukha)	Asafoetida	Edible Common Salt
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								Pyaj)		
1	Total Plate Count	-	-	-	-	-	-		-	-
2	Coliform Count	-	-	-	-	-	-		-	-
3	E. Coli	-	-	-	-	-	-		-	-
4	Salmonella	Absent in 25 gm	-	-	Absent in 25 gm	Absent in 25 gm	-	-	-	-
5	Shigella	-	-	-	-	-	-		-	-
6	Staphylococcus aureus	-	-	-	-	-	-		-	-
7	Yeast and Mould Count	-	-	-	-	-	-		-	-
8	Anaerobic Spore Count	-	-	-	-	-	-		-	-
9	Listeria monocytogens	-	-	-	-	-	-		-	-

<b>TABLE 4: Microbiological requirements of food products given below: -</b>			
SI No	Products	Parameters	Limits
1	Thermally processed fruits 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 changes in pH
2	a) Dehydrated fruits and vegetable products b) Soup powders c) Desiccated coconut powder d) Table olives e) Raisins f) Pistachio nuts g) Dates h) Dry fruits and nuts	Total plate count	Not more than 40,000 / gm
3	Carbonated beverages, ready – to – serve beverages including fruit beverages	a) Total plate count b) Yeast and mould count c) Coli form count	Not more than 50 cfu / ml Not more than 2.0 cfu / ml Absent in 100 ml
4	Tomato products a. Tomato juices 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	Positive in not more than 40.0 percent of the field examined Not more than 125 per 1 / 60 c.m.m Positive in not more than 60.00 percent of the field examined Positive in not more than 40.00 percent of the field examined Not more than 125 per 1 / 60 c.m.m Not more than 10000 / ml
5	Jam / Marmalade / Fruit jelly / Fruit Chutney and Sauces	Total plate count  Yeast and spores	Positive in not more than 40.00 percent of the field examined Not more than 125 per 1 / 60 c.m.m
6	Other fruits and vegetables products covered under item A. 16 of Appendix B	Yeast and mould count	Positive in not more than 100 count / gm
7	Frozen fruits and vegetables	Total plate count	Not more than 40,000 /



	products		gm
8	Preserves	Mould count	Absent in 25 gm / ml
9	Pickles	Mould count	Absent in 25 gm / ml
10	Fruits Cereal Flakes	Mould count	Absent in 25 gm / ml
11	Candied and Crystallised or Glazed Fruit and Peel	Mould count	Absent in 25 gm / ml
12	a) All Fruits and Vegetable products and ready – to – serve Beverages including Fruit Beverages and Synthetic products covered under A. 16 of Appendix B b) Table olives c) Raisins d) Pistachio nuts e) Dates f) Dry fruits and nuts g) Vinegars	a. Flat Sour Organisms	(i) Not more than 10,000 cfu / gm for those products which have pH less than 5.2 (ii) Nil for those products which have pH more than 5.2
		b. Staphylococcus aureus	Absent in 25 gm / ml
		c. Salmonella	Absent in 25 gm / ml
		d. Shigella	Absent in 25 gm / ml
		e. Clostridium botulinum	
		f. E. Coli	Absent in 25 gm / ml
		g. Vibrio Cholera	Absent in 1 gm / ml Absent in 25 gm/ ml

APPENDIX C - FORMS

**FORM A- Form of Guarantee**  
**(Refer Regulation 10.1)**

Invoice No. \_\_\_\_\_

Place: \_\_\_\_\_

From: \_\_\_\_\_

Date: \_\_\_\_\_

To: \_\_\_\_\_

Date of sale	Nature and quality of article/brand name, if any	Batch No or Code No.	Quantity	Price
1	2	3	4	5

I/We hereby certify that food/foods mentioned in this invoice is/are warranted to be of the nature and quality which it/these purports/purport to be.

Signature of the manufacturer/Distributor/Dealer

Name and address of

Manufacturer/Packer

(in case of packed article)

Licence No. (wherever applicable)

## FORM B

**(Refer Regulation 7.3.8 (2))**

### **Declaration**

I/ We on behalf of .....  
solemnly declare that the ghee sold by me / us/ on behalf of .....  
...../ ghee used by me / us / on behalf of ..... in the  
preparation of ..... .Confectionary (including  
sweetmeats) is / was from a tin containing ghee of .....  
origin and having "AGMARK" seal. The said tin pertains to batch  
number..... from Shri/ Shrimati/ Kumari/ Sarvsri  
..... on the ..... as  
per invoice / cash/ credit memo.

No..... Dated.....

Signature of Trader/ Traders

Date.....

Place.....

**FORM C**

**(Refer regulation 9.1.2)**

CERTIFICATE OF ANALYSIS BY THE REFERRAL FOOD LABORATORY

Certificate No. ....

Certificate that the sample , bearing number .....purporting to be a sample/of ..... was received on ..... with Memorandum No. .... Dated ..... From ..... [Name of the Court] ..... for analysis. The condition of seals on the container and the outer covering on the receipt was as follows:

.....  
.....

I ..... (name of the Director)\_ ..... found the sample to be ..... (Category of food sample) ..... falling under item No. .... of **Chapter 5** of Food Safety and Standards Regulations, 2010 food. The sample was in a condition fit for analysis and has been analyzed on ..... (Give date of starting and completion of analysis)..... and the result of its analysis is given below /\*was not in a condition fit for analysis for the reasons given below:-

Reason:-

.....

Analysis Report:-

(i) Sample Description:-

.....

(ii) Physical Appearance :-

.....

(iii) Label: - .....

Sl.No.	Quality Characteristics	Name of the Method of the test used	Results	Prescribed Standards as per:-
				(a) Chapter 5 (b) As per label declaration for proprietary foods (c) As per the provisions of the Act and Regulations, for both above
1.				
2.				
3.				
4.				
5.				
6.				

Options \*\*

Place:

(Signature)

Date:

Director Referral Food Laboratory

(Seal)

**Form D: Report of the Food Analyst**

**(Refer Regulation (ii) of 9.2.1)**

Report No.\_\_\_\_\_.

Certified that I \_\_\_\_\_ (name of the Food Analyst) duly appointed under the provisions of Food Safety and Standards Act, 2006 (34 of 2006), for \_\_\_\_\_ (name of the local area) received from \_\_\_\_\_\* a sample of \_\_\_\_\_, bearing Code number and Serial Number \_\_\_\_\_ of Designated Officer of \_\_\_\_\_ area\* on \_\_\_\_\_(date of receipt of sample) for analysis.

The condition of seals on the container and the outer covering on receipt was as follows:

\_\_\_\_\_

I found the sample to be ..... (category of the sample) falling under item No.\_\_\_\_\_ of **Chapter 5** of Food Safety and Standards Regulations, 2010. The sample \*\*was in a condition fit for analysis and has been analysed on \_\_\_\_\_ (give date of starting and completion of analysis) and the result of its analysis is given below/\*\* was not in a condition fit for analysis for the reason given below:

Reasons:

.....  
.....

**Analysis report**

(i) Sample Description

.....

(ii) Physical Appearance

.....

(iii) Label

.....

Sl No.	Quality characteristics	Nature of method of test used	Result	Prescribed standards as per (a) Chapter 5 (b) As per label declaration for proprietary food (c) As per provisions of the Act , rules and regulations for both the above.
1.				
2.				
3.				
4.				
5.				
6.				

Opinion\*\*\*

Signed this \_\_\_\_\_ day of \_\_\_\_\_ 20

Address:

(Sd/-) Food Analyst.



- \* Give the details of the senders
- \*\* Strike out whichever is not applicable
- \*\*\* When opinion and interpretation are included, document the basis upon which the opinions/interpretations have been made.