

# **NATIONAL REGULATIONS: PFA, AGMARK, BIS and FSSAI**

## **Introduction**

In India, we have mostly two types of standards, which govern the sale of foods including milk and milk products. These are: Legal standards and Quality standards. Moreover, we had many bodies enforcing standards. This led to lot of confusion for both manufacturers as well as enforcers. In the recent past the concept of globalization or flat world has emerged very strongly, where all the boundaries have been eliminated. However, some barriers to trade with respect to more stringent norms and others have been raised. In this context Indian Standards needed to be harmonized within themselves as well as with the international standards. To eliminate the problems and confusions in the trade of food items including milk, a thought of uniform standards was evolved, which has been culminated in the form of Food Safety and Standards Authority of India.

## **Legal Standards**

Legal standard means the specifications or the requirements which pertain to the law of the Govt. and are set up by the Govt. to meet certain minimum requirements in terms of chemical quality (i.e. composition), bacteriological quality (i.e. hygienic quality), and labelling and packaging requirements.

In our country, legal standards are given under PFA Rules, 1955 (which are amended from time to time). Legal standards or PFA standards prescribe the minimum requirements for all types and categories of food. These standards are consistent with the minimum quality that is attainable under Indian conditions by the majority of the farmers, producers, processors, sale agencies etc. Further, any food that does not confirm to the minimum standards laid down by the legal rulers (PFA rules) is said to be adulterated, irrespective whether anything has been added to or removed from the original food.

## **Parameters Generally Taken into Consideration while Fixing Legal Standards**

### **1. Purity**

There should be a mention of purity in clear terms i.e. whether anything can be added or removed from the original food should be clearly specified in the rules.

### **2. Composition**

Certain compositional criteria should also be clearly specified in the rules, as to what should be the minimum level of components in a given type of product. For example, fat and solids-not-fat content in milk, fat in whole milk powder, cream, paneer etc. Similarly, moisture in ghee, butter, skim milk powder etc. Likewise, all the compositional requirements should be specified for all the dairy products.

### **3. Additives**

If any additives are required to be added to any food to improve its quality, stability, flavour etc, these should be clearly specified in the rules with respect to their levels etc. For example, certain additives are permitted like nisin (preservative) in cheese, BHA (antioxidant) in ghee, butter, whole milk powder etc.

#### **4. Efficiency of processing**

It should be clearly specified in the rules as to which types of tests have to be performed to check the efficiency of heat processing treatments given to milk and milk products. For example, phosphatase test should be negative for pasteurized milk; turbidity test should be negative for sterilized milk.

#### **5. Bacteriological quality (Hygienic quality)**

Permissible limits for coliform count, total count, yeast and mould count etc should be clearly specified in the rules

#### **6. Packaging and labelling requirements**

There should be mention in the rules as to what type of packaging material is to be used for what type of food and what should be indicated on the labels like quantity, price, manufacturing date, expiry date etc. Now- a- days, nutritional facts are to be given on the labels.

### **BIS Mark and AGMARK**

#### **Quality Standards**

Quality standards means those specifications which are laid down by the Government or some expert body constituted by the Govt. for the purpose of producing high quality products.

While legal standards are compulsory, the quality standards are not compulsory. They are on voluntary basis.

In our country, we have two types of quality standards

#### **BIS/ ISI standards**

#### **Agmark standards**

Both of these are above the PFA minimum standards. Both of these are useful for producing export quality products.

BIS/ISI standards deal with many types of processed food products, apart from non-food products. Similarly, Agmark standards deal with many types of foods, mainly with the raw agricultural produce. For example: cereals, oils, oil seeds, spices, eggs, legumes (pulses), ghee, butter etc.

Among the dairy products, for the purpose of quality standards, ghee and creamery butter (Table butter or salted butter) are covered under Agmark. Rest of the dairy products are covered under BIS/ISI.

As stated earlier, Agmark and BIS are voluntary and not compulsory; but in 1987, BIS has made it compulsory or mandatory for certain items to have ISI mark. For example, for food colours and additives, vanaspati, containers for packing, milk powder and condensed milk. Therefore, for these two milk products (milk powder and condensed milk), it is now compulsory to have ISI mark.

### **Why Do We Need Legal and Quality Standards?**

The main purpose of these standards is to protect the interest of the consumer, although in a way the interest of the manufacturer also gets protected, because if it is a certified product with some quality mark (like ISI, Agmark), it will sell more as compared to the uncertified product.

Moreover, customer also wants to be sure about quality. He does not mind to pay a little more for an assumed quality product i.e. certified product.

Furthermore, someone has to protect the interest of the consumer. They should not be left at the mercy of the manufacturers, because he is ignorant about the quality. Consumer should get a product of pure quality (i.e. unadulterated) free from pathogenic organisms and also free from harmful substances like pesticides, antibiotics, heavy metals (toxic metals like Arsenics, lead, mercury etc), and toxins etc.

So, it is the duty of the Govt. to fix legal standards to protect the interest of the consumer and also to fix quality standards so as to improve the quality of the product to a higher degree above the minimum legal (PFA) standards.

### **PFA Act and Rules**

PFA stands for Prevention of Food Adulteration. The PFA Act was passed in 1954 and PFA Rules were framed in 1955 to protect the consumers against the supply of inferior quality or adulterated food. In recent years the Govt. of India has enacted another Act known as “The Food Safety and Standards Act, 2006”, abbreviated as FSS Act 2006. The regulations under this act have come into force from Aug, 2011.

The main objectives of PFA Act are:

- To protect the public from harmful and poisonous foods.
- To prevent the sale of substandard food containing harmful substances, and
- To protect the society against unscrupulous and anti-social dealers by eliminating fraudulent practices.

PFA standards are formulated and revised by an expert body called Central Committee for Food standards (CCFS) under the Directorate General of health Services, Ministry of Health and Family Welfare. It is the CCFS which advises the Central Govt. and the State Govt. on matters arising out of the administration of PFA Act. It is a very heavy committee. People from all the States and the Union Territories (UTs) and all the major Ministries and departments are representative of this committee.

### **Procedure for Collection and Analysis of PFA Samples**

PFA samples are collected by Food Inspectors. After collecting the samples, he divides the sample then and there into 3 parts. One part is sent for analysis to Public Analyst (under the control of local health authority, usually the chief medical officer (CMO)). Two parts are given to local health authority (LHA) for custody.

The public analyst has to send the report of analysis within 40 days of receipt of sample. In case of adverse report of public analyst, the 2nd part of sample is produced in the court within 7 days and the copy of report is given to party i.e. accused by the local health authority (CMO). Within a period of 10days of the report, LHA or party concerned or both of them may make an

application to the court for getting the 2nd part of the sample analyzed at Central Food Laboratory (CFL).

On receipt of such report, the court sends the 2nd part of sample for analysis to Director, CFL, who has to send a certificate on the result of analysis within one month from the receipt of 2nd part of sample.

The 3rd part of the sample is kept to meet such exigencies like damage /destruction / breakage on the way when first part of sample is sent to Public Analyst for analysis.

The report of public analyst on 1st part of the sample stands superseded by the certificate issued by the Director, CFL on analysis of the 2nd part of the sample.

There are several Public Health Laboratories (also called Public Food Laboratories) in the country where first part of the sample is analysed. Almost each district has such a lab under the control of Chief Medical Officer (called Local Health Authority).

But there are only four CFL (central food laboratories) in the country. These are located at Kolkata, Mysore, Pune and Ghaziabad. All these 4 CFLs take care of the requirements of whole country, Zone wise. In fact, the whole country is divided into 4 Zones and each zone is then connected to one of these CFL. Samples of a particular area/zone are sent to the concerned CFL.

### **Preservative Permitted to Be Added to Samples**

When a food inspector takes the sample of any food for analysis, he has to add a preservative, as may be prescribed from time to time, so as to keep the sample in a condition suitable for analysis. The preservative used in the case of samples of any milk (including toned, separated and skimmed milk, standardized milk chhanna, skimmed milk chhanna, cream, ice-candy, dahi, khoa or khoa based or paneer based sweets, such as kalakand and burfi, chutney and prepared foods, gur, coffee and tea in liquid and semi liquid form, shall be the liquid commonly known as “formalin”, a liquid containing about 40 percent of formaldehyde in aqueous solution in the proportion of 0.1 ml (two drops) for 25ml or 25grams (i.e. @ 0.4%). Provided that in case of ice-cream and mixed ice-cream, the preservative used shall be in the proportion of 0.6 ml for 100 ml or 100 gm (i.e. @ 0.6%).

### **Agriculture Produce (Grading and Marking) Act (AGMARK)**

Agmark stands for “Agricultural Marking”. In order to have a systematic marketing of Agricultural Produce on the basis of well-defined quality, Indian Legislature in 1937 passed an act known as “Agriculture Produce (Grading and Marking) Act, 1937. This act is not mandatory. It is permissive in nature. It is one’s choice to go for Agmark grading, if one can meet their specifications. Rules under this Act are called “General Grading and Marking Rules, 1937”. Rules have been revised in 1988 and are called General Grading & Marking Rules, 1988. Grading of Agricultural items under these rules is called AGMARK GRADING or Agmark certification.

Agmark is the exclusive property of Govt. of India. It is not a private trade mark. Directorate of Marketing & Inspection (DMI) is the authority on the Agmark whose head quarter is now at

Faridabad and branched head quarter is at Nagpur. It is the DMI which enforces the Agricultural Produce Act, 1937.

Under the Agricultural Produce Act, 1937-grade standards are given for agricultural and allied commodities like cereals, oil seeds, oils, creamery butter, ghee, legumes, eggs etc. Agricultural commodities are categorized into various grades such as, special, good, fair, ordinary etc depending upon the degree of quality (type of composition) in each case. These grades are known as “Agmark Standards” and this way of categorizing or grading the agricultural products in terms of their chemical composition or quality is called “Agmark Grading”.

### **Objectives of Agmark Scheme**

- To assure the consumers a product of pre-tested quality & purity.
- To enable the producer of good quality products to have better returns.
- To have a sale of the product in the market with a uniform composition and well defined quality.
- To eliminate the malpractice of adulteration in the movement of the product from producer to consumer.

Among the dairy products, only ghee and creamery butter (Table butter or salted butter) are graded under Agmark. Deshi or cooking (unsalted or white) butter is not graded under Agmark.

### **How The Certificate of The Authority To Use Agmark Labels Is Obtained?**

Interested parties who wish to get authority to use Agmark Labels have to apply to the Agricultural Marketing Advisor (AMA) to Govt. of India at Directorate of Marketing & Inspection (DMI) whose H.Q is at Faridabad (Branched H.Q. at Nagpur). Application by the party concerned should be submitted through the state marketing officer.

Interested parties should meet the following pre-requisites so as to get the authority to use Agmark labels.

- They should have well equipped, hygienic site and hygienic equipment's.
- They should have well equipped lab.
- They should have qualified staff like butter makers having 5 years' experience or possessing a certificate of proficiency from a recognized agricultural or dairy institute. Similarly, a chemist with dairying degree in dairying.
- Packers of pasteurized table butter should have pasteurizing plant and cold storage facilities.
- Cream separating station, if separate, that also should be hygienic.\
- They should have quality control checks on cream and raw materials so as to ensure that no adulteration with animal or vegetable fat takes place.
- Packing containers should be clean and rust free.
- No vegetable fat, animal body fat and no artificial flavouring or colouring matter should be seen near the factory and cream separating station.
- Ghee clarification temperature should never go above 110°C.

- They should also send one sample of butter/ghee to Regional Agmark Lab or any other specified lab at regular intervals as advised by AMA.
- All instructions from AMA will have to be followed strictly. For example, method of sampling, method of sealing and marking of tins or cartons, maintenance of records, labeling procedure as prescribed by AMA. Upto date record of labels to be kept, labels to indicate clearly the designation (pasteurized butter, special & general grade of ghee etc) and serial number of label. Container should indicate the name of packer, batch no. (Melt no), date of packing, net weight and Certificate of Authorization (CA) number.

Now if parties concerned can afford, then write to AMA at Faridabad/Nagpur through state marketing officer. Then, AMA or his authorized persons will inspect the premises, the facilities and technical staff etc. After satisfaction, AMA issues the necessary certificate of authority to use Agmark Labels. Certificate of Authorization is renewed periodically on the basis of the past performance of the authorized packer.

### **How The Agmark Scheme Operates In Case Of Butter & Ghee?**

Once the authority to use Agmark Label for butter/ghee is obtained, then usually the Agmark people employ their chemist (called Agmark chemist) in the factory.

All the operations right from the stage of manufacturing the product to the stage of packing and sealing are done under the supervision of Agmark chemist.

Usually the butter, ghee etc are manufactured in the factory itself, but sometimes the Kacha/Raw ghee is brought to the factory by middlemen, or agents or producers, then the Agmark chemist draws sample of that Raw or Kacha ghee and analyses for BR reading, FFA, Baudouin test, RM and Polenske value etc for his satisfaction about its purity, before its further processing.

After the manufacturing of every batch of butter or ghee, but before the packing and sealing, the product is tested for purity and quality by the Agmark chemist as per the Agmark standard of the concerned product.

Agmark chemist draws two samples of butter, one is analysed and second is sent to Regional Agmark Laboratory as specified by AMA. Similarly, in case of ghee, he draws three samples, one is analysed and second is sent to central control lab as per AMA and 3rd is given to manufacturer for future use.

Once the Agmark chemist is satisfied with the analysis with regard to the specifications fixed under Agmark, then only labels are issued and fixed, otherwise it is denied.

Fixing of labels is done by a special adhesive in such a manner that once fixed cannot be removed without damage.

In case the Agmark chemist is not employed, then the authorized packer can get his product tested at the approved State Grading Laboratory (SGL).

After the ghee and butter are packed and sealed in tins/cartons and sold in the market, the field staff of DMI collects the check samples from the market when the products are on sale in the market. These check samples are analysed at different Regional Agmark Laboratories (RAL)

and the results are compared with the original. If the results agree then alright, but if the results do not agree, then appropriate action is taken, such as the product is withdrawn from the market, and the authority to use Agmark labels is cancelled etc.

### **Bureau of Indian Standards (B.I.S)**

It is a national standards body of India which is responsible for formulating National Standards for various types of articles (both edible & non-edible i.e. food & non-food articles e.g. live stock feed, cattle housing, equipments, dairy products, food additives, food hygiene), testing apparatus and methods etc.

The old name of this organization was ISI (Indian Standards Institution), which was established in 1947. The new name i.e. BIS came into existence from 1st April, 1987 under the BIS Act 1986.

### **Structure of BIS/ Members of BIS**

Membership of BIS is broad based and all important interests are represented.

Minister for food and civil supplies is the *President* of BIS

Members of BIS include:

- Members of Parliament,
- Ministers of state govts.,
- Nominees of central Govt. Ministries and departments,
- Farmers community,
- Consumers organizations,
- Academic institutions
- Research institutions
- Industry and
- Professional Associations.

### **OBJECTIVES and FUNCTIOS OF BIS**

1. To formulate Indian standards for various articles, processes, methods of test, codes of practices etc and promote their implementation.
2. To promote the Concepts of standardization and Quality control in industries.
3. To coordinate the efforts of producers and users for making improvements in the materials, products, processes and methods.
4. To operate ISI certification scheme.
5. To establish testing laboratories of its own.
6. To operate laboratory recognition scheme to meet the requirements of testing.
7. To offer technical and consultancy services within and outside the country.
8. To have cooperation and coordination with international standard making bodies like ISO.

BIS is a member of ISO and IEC

**ISO- international organization for standardization.**

## **IEC- international electro-technical commission.**

### **How to get authority to use ISI mark?**

For getting an authority/or license to use ISI mark on the products, the manufactures have to apply to BIS for permission.

BIS people then send a team to inspect the factory, verify the capabilities of manufacturer to produce and also test the products on continuous basis in accordance with the relevant Indian standards.

They also check the quality of the products and other facilities and after satisfying themselves they give permission to use ISI mark.

BIS gives a well-defined quality control system to the manufactures and tells them to exercise control measures at various stages like,

- Raw material,
- Different stages of production,
- Finished product stage.

BIS keeps a supervisory control to ensure that the ISI marks product are always in conformity with the relevant Indian standards.

BIS also has an elaborate Quality Audit System under which they draw the samples

- From the factory production line, or
- From factory store, or
- Purchase them from the open market.

And then test the samples in their own labs or recognized labs to check the conformity with the relevant Indian standards.

BIS also entertains complaints from consumers and arranges free replacements of defective ISI-marked goods.

BIS also provides training in statistical quality control to its applicants and licensees for improving their technical skill.

### **Modern Integrated Food Law (FSSA, 2006)**

In order to consolidate the laws relating to food and to establish the Food Safety and Standards Authority of India for laying down science based standards for articles of food and to regulate their manufacture, storage, distribution, sale and import, to ensure availability of safe and wholesome food for human consumption and for matters connected therewith or incidental thereto, the Govt. of India has enacted new food laws known as “The Food Safety and Standards Act, 2006”. This Act was passed on 23rd August, 2006. It extends to the whole of India.

However, the Act came in to force only recently in 2011. This Act consolidates various acts & orders that have hitherto handled food related issues in various Ministries and Departments.

## **Highlights of the Food Safety and Standard Act, 2006**

Various central Acts like Prevention of Food Adulteration Act, 1954 , Fruit Products Order , 1955, Meat Food Products Order , 1973, Vegetable Oil Products (Control) Order, 1947, Edible Oils Packaging (Regulation) Order 1988, Solvent Extracted Oil, De- Oiled Meal and Edible Flour (Control) Order, 1967, Milk and Milk Products Order, 1992 etc will treated as repealed after commencement of FSS Act, 2006.

The Act also aims to establish a single reference point for all matters relating to food safety and standards, by moving from multi- level, multi- departmental control to a single line of command. To this effect, the Act establishes an independent statutory Authority – the Food Safety and Standards Authority of India with head office at Delhi. Food Safety and Standards Authority of India (FSSAI) and the State Food Safety Authorities shall enforce various provisions of the Act.

### **Establishment of FSSAI**

Ministry of Health & Family Welfare, Government of India is the Administrative Ministry for the implementation of FSSAI. The Chairperson and Chief Executive Officer of Food Safety and Standards Authority of India (FSSAI) have already been appointed by Government of India. The Chairperson is in the rank of Secretary to Government of India. FSSAI has been created for laying down science based standards for articles of food and to regulate their manufacture, storage, distribution, sale and import to ensure availability of safe and wholesome food for human consumption.

### **Composition of Food Safety and Standards Authority of India**

The Food Authority consists of a Chairperson and the following twenty-two members out of which one-third shall be women, namely:-

(a) Seven Members, not below the rank of a Joint Secretary to the Government of India, to be appointed by the Central Government, to respectively represent the Ministries or Departments of the Central Government dealing with -

(i) Agriculture, (ii) Commerce, (iii) Consumer Affairs, (iv) Food Processing, (v) Health, (vi) Legislative Affairs, (vii) Small Scale Industries, who shall be Members ex-officio;

(b) Two representatives from food industry of which one shall be from small scale industries;

(c) Two representatives from consumer organizations.

(d) Three eminent food technologists or scientists.

(e) Five members to be appointed by rotation every three years, one each in seriatim from the Zones as specified in the First Schedule to represent the States and the Union territories;

(f) Two persons to represent farmers' organizations.

(g) One person to represent retailers' organizations.

### **Punishment for unsafe food under FSSAI**

Any person who, whether by himself or by any other person on his behalf, manufactures for sale or stores or sells or distributes or imports any article of food for human consumption which is unsafe, shall be punishable, –

1. where such failure or contravention does not result in injury, with imprisonment for a term which may extend to six months and also with fine which may extend to one lakh rupees;
2. where such failure or contravention results in a non-grievous injury, with imprisonment for a term which may extend to one year and also with fine which may extend to three lakh rupees;
3. where such failure or contravention results in a grievous injury, with imprisonment for a term which may extend to six years and also with fine which may extend to five lakh rupees;
4. where such failure or contravention results in death, with imprisonment for a term which shall not be less than seven years but which may extend to imprisonment for life and also with fine which shall not be less than ten lakh Rupees.

#### **Penalty for selling food not of the nature or substance or quality demanded**

Any person who sells to the purchaser's prejudice any food which is not in compliance with the provisions of this Act or the regulations made there under, or of the nature or substance or quality demanded by the purchaser, shall be liable to a penalty not exceeding five lakh rupees. Provided that the persons covered under sub-section (2) of section 31, shall for such non-compliance be liable to a penalty not exceeding twenty-five thousand rupees.

#### **Penalty for sub-standard food**

Any person who whether by himself or by any other person on his behalf manufactures for sale or stores or sells or distributes or imports any article of food for human consumption which is sub-standard, shall be liable to a penalty which may extend to five lakh rupees.

#### **Penalty for possessing adulterant**

1. Subject to the provisions of this chapter, if any person who whether by himself or by any other person on his behalf, imports or manufactures for sale, or stores, sells or distribute any adulterant shall be liable –
  - (i) where such adulterant is not injurious to health, to a penalty not exceeding two lakh rupees;
  - (ii) where such adulterant is injurious to health, to a penalty not exceeding ten lakh rupees.
2. In a proceeding under sub-section (1), it shall not be a defence that the accused was holding such adulterant on behalf of any other person.

**As per new norms the Milk and Milk Products Order, 1992 shall be deemed to be regulations made under this Act.**

1. On and from the date of commencement of this Act, the Milk and Milk Products Order, 1992 issued under the Essential Commodities Act, 1955 (10 of 1955) shall be deemed

to be the Milk and Milk Products Regulations, 1992 issued by the Food Authority under this Act.

2. The Food Authority may, with the previous approval of the Central Government and after previous publication, by notification, amend the regulations specified in subsection.

In FSSAI, to harmonise the codex standards, "**Codex India**" the National Codex Contact Point (NCCP) for India, has been constituted. This point is located at Food Safety and Standards Authority of India (Ministry of Health and Family Welfare), FDA Bhawan, Kotla Road, New Delhi -110002, India. It coordinates and promotes Codex activities in India in association with the National Codex Committee and facilitates India's input to the work of Codex through an established consultation process.