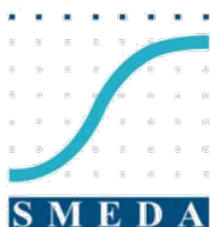


# FOOD SAFETY: COMPLIANCE REQUIREMENTS



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## **1. INTRODUCTION OF SMEDA**

The Small and Medium Enterprise Development Authority (SMEDA) was established with the objective to provide fresh impetus to the economy through the launch of an aggressive SME development strategy. Since its inception in October 1998, SMEDA had adopted a sectoral SME development approach. A few priority sectors were selected on the criterion of SME presence. In depth research was conducted and comprehensive development plans were formulated after identification of impediments and retardants. The all-encompassing sectoral development strategy involved overhauling of the regulatory environment by taking into consideration other important aspects including finance, marketing, technology and human resource development.

After successfully qualifying in the first phase of sector development SMEDA reorganized its operations in January 2001 with the task of SME development at a broader scale and enhanced outreach in terms of SMEDA's areas of operation. Currently, SMEDA along with sectoral focus offers a range of services to SMEs including over the counter support systems, exclusive business development facilities, training and development and information dissemination through a wide range of publications. SMEDA's activities can now be classified into the three following broad areas:

1. Creating a Conducive Environment; includes collaboration with policy makers to devise facilitating mechanisms for SMEs by removing regulatory impediments across numerous policy areas
2. Cluster/Sector Development; comprises formulation and implementation of projects for SME clusters/sectors in collaboration with industry/trade associations and chambers
3. Enhancing Access to Business Development Services; development and provision of services to meet the business management, strategic and operational requirements of SMEs.

SMEDA has so far successfully formulated strategies for sectors, including fruits and vegetables, marble and granite, gems and jewelry, marine fisheries, leather and footwear, textiles, surgical instruments, transport and dairy. Whereas the task of SME development at a broader scale still requires more coverage and enhanced reach in terms of SMEDA's areas of operation.

Despite the structural shift towards industrialization, agriculture sector is still the largest sector of the economy with deep impact on socio-economic set up. Knowing this fact, SMEDA, since its inception, is highly committed to enhance the competitiveness of local food processing industry in the country. SMEDA 'Agro Food Services' offers a wide range of services to support the industry, including; Identification of potential investment opportunities in the sector, development of business plans and feasibilities etc. Training and capacity building and hand holding of entrepreneurs.

## 2. DISCLAIMER

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### **3. What is Food Safety?**

Food safety is a scientific discipline that focuses on handling, preparation, and storage of food in ways that prevent foodborne illness. This includes a number of routines that should be followed to avoid potential health hazards. The tracks within this line of thought are safety between industry and the market and then between the market and the consumer. In considering industry to market practices, food safety considerations include the origins of food including the practices relating to food manufacturing, labeling, hygiene, additives and pesticide residues, as well as policies on biotechnology and guidelines for the management of governmental import and export inspection and certification systems for foods. In considering market to consumer practices, the usual thought is that food ought to be safe in the market and the concern is safe preparation, preservation and delivery of the food for the consumer.

Food can transmit disease from person to person as well as serve as a growth medium for bacteria that can cause food poisoning. In developed countries there are intricate standards for food preparation, whereas in lesser developed countries the main issue is simply the availability of adequate safe water, which is usually a critical item in food preparation. In theory, food poisoning is 100% preventable. The five key principles of food hygiene, according to WHO, are:

1. Prevent contaminating food with pathogens spreading from people, pets, and pests.
2. Separate raw and cooked foods to prevent contaminating the cooked foods.
3. Cook foods for the appropriate length of time and at the appropriate temperature to kill pathogens.
4. Store food at the proper temperature.
5. Do use safe water and safe raw materials.

### **4. Why Food Safety?**

For a business, Food Safety is something that has to be taken seriously. Food businesses are responsible for complying with all Food Safety regulations affecting the business and if not practiced, it can literally be fatal, damaging the reputation, leading to serious costly repercussions. Having a strong reputation for food safety is the cornerstone of building a strong brand. Improving the 'Food Safety Culture' within your



business is not just about obeying the law and being socially responsible, it also makes good business sense as it increases the customer confidence.

Some important benefits of food safety are:

- Give suppliers and consumers confidence in your products
- Enhances brand value and recognition amongst consumers
- Increases prospects of better product pricing and profitability
- Reduces a business's chance of being dragged in courts by consumers or authorities
- Reduces a business's cost of doing business in the future
- Contributes in the social wellbeing by reducing food borne illnesses

## **5. Legal requirements for Food Safety**

Legal requirements are those requirements for food businesses to place safe food on the market, for traceability of food, for presentation of food, for the withdrawal or recall of unsafe food placed on the market and that food and feed imported into, and exported from other countries and as well as locally.

### **A) Pakistan / Punjab legal requirements**

In Punjab Food Safety is regulated under the Punjab Food Authority Act, 2011 and Punjab Pure Food Rules. The Punjab Pure Food rules cover 104 items falling under nine broad categories which are as follows:

1. Dairy & Dairy Products
2. Edible Oil & Fat Products
3. Beverages
4. Food Grains & Cereals
5. Starchy Food
6. Spices & Condiments
7. Sweetening Agents
8. Fruits & Vegetables
9. Miscellaneous Food Products

These regulations address purity issues in raw food and deal with:

- Additives
- Preservatives

- Food Colors
- Antioxidants
- Heavy Metals

In addition, similar provisions exist in other provinces under the respective legislations province relating to Food Safety. The Government of Pakistan has also prescribed certain standards through Pakistan Standards and Quality Control Authority (PSQCA) that are mandatory to follow by the manufacturers of food and food grade materials. These standards are aligned with Codex Alimentarius Commission and traceable with WHO. The mandatory 37 food products are as follows:

**Table 1: Conformity Assessment. List of Food Items with Codes**

<b>Product</b>	<b>Pakistan Standards #</b>
Apple Juice	PS: 1738 - 2000
Banaspati Ghee	221
Biscuits (Excluding Wafer Biscuits)	383
Butter	PS: 1831 - 1997
Carbonated Beverages	1654
Bottled Drinking Water	4639
Cooking Oil (Blended)	2858
Cotton Seed Oil Cake Expeller Type	96
Chili Powder	PS: 1742 - 1997
Concentrated Fruit Juice	PS: 527 - 1992
Condensed Milk	PS: 364 - 1991
Curry Powder	PS: 1741 - 1997
Edible Sesame Seed Oil	98
Food for Infants and Children	PS: 1688 - 1985
Flavored Milk	PS: 3189 - 1992
Fruit Squash	PS: 506 - 1997
Honey	PS: 1934 - 2007
Iodized Salt	1669
Jams ( Fruit preserve ) & Jellies	PS: 2096 - 1989
Margarine	1653
Mayonnaise	PS: 3947 - 1997
Marmalade	PS: 514 - 1985
Milk Powder (whole and Skim)	PS: 363 - 1991
Natural Mineral Water	2102



<b>Product</b>	<b>Pakistan Standards #</b>
Orange Juice	PS: 1738 - 2000
Palm oil (Edible grade for cooking purposes)	1561
Refined Coconut Oil	99
Refined Cotton Seed Oil	21
Refined Maize Corn Oil	1562
Refined Mustard Oil	25
Refined Soya bean Oil	1563
Refined Sunflower Oil	1564
Refine Sugar & White Sugar	PS: 1822 - 2007
Synthetic Vinegar	PS: 3602 - 1994
Tea Black	PS: 493 - 2000
Wafers Biscuits	PS: 614
Packaged Liquid Milk	PS: 5344 - 2016

**B) International legal requirements**

The International Organization for Standardization (ISO) is an international standard-setting body composed of representatives from various national standards organizations. It is headquartered in Geneva, Switzerland, and as of March 2017 works in 162 countries. It was one of the first organizations granted general consultative status with the United Nations Economic and Social Council. In many countries to import or export any food item, the food safety certification is must for e.g. USA, EU and majority of Gulf countries. Food safety certification requirement is of great importance for the traceability of product. Government of Pakistan has adopted 22070 ISO Standards and developed 8857 Pakistan Standards. Food Standards are aligned with Codex Alimentarius Commission and traceable with WHO. These standards are on Food items and related products.

**6. How to ensure Food Safety?**

There are certain requirements which are broadly categorized in two main categories:

**a) Food Safety requirements related to premises and machinery:**

There are many factors which food processing businesses need to consider when ensuring food safety for consumers. Following are 10 critical areas of focus as





prescribed in BRC Global Standards that will help you to ensure that food safety is applied to your business prescribed:

**I. Facilities location and design**

The design and location of a food processing facility needs to be carefully taken into account. Areas that are known to be pest “hot spots” as well as prone to pollution need to be avoided to reduce the risk of contamination. The production site should be of suitable size, location and construction, and be maintained to reduce the risk of contamination and facilitate the production of safe and hygienic finished products. Materials used for the internal structure of buildings should be durable, prevent buildup of dirt, easy to clean and maintain, and safe for staff.

**II. Machinery and production line design**

The layout of the production line should allow easy maintenance and cleaning of machinery and surrounds and prevent contamination of the food products and ingredients during the production process. The design of machinery used for food processing also has to be taken into account to comply with food safety regulations. Poor design can result in build-up of food material in hidden places that are difficult to clean. The 10 principles of sanitary design as per international standards are:

- Cleanable to a microbiological level
- Made of compatible materials
- Accessible for inspection, maintenance, cleaning and sanitation
- No product or liquid collection
- Hollow areas hermetically sealed
- No niches
- Sanitary operational performance
- Hygienic design of maintenance enclosures
- Hygienic compatibility with other plant systems
- Validate cleaning and sanitizing protocols

**III. Pest control**

Pest control plays an important part in food safety. Troublesome insects such as cockroaches and flies can spread food-borne diseases by contaminating food at any stage of production. Rodents also spread diseases as well as causing damage to



buildings, fixtures and machinery. Stored product insects can damage and contaminate food during transport and storage. Investing in pest control monitoring and detection can help prevent pests from entering a food processing establishment, assisting in the compliance of food safety.

#### **IV. Waste management**

Provide appropriate containers and suitable waste storage areas. Establish adequate procedures for the storage and removal of waste. This prevents build-up of waste and pests and reduces risk of contamination of ingredients, equipment and products.

#### **V. Cleaning**

Establish cleaning and disinfection programs to ensure the correct hygiene standards are met and reduce the risk of a foodborne illness outbreak. This includes properly cleaning and disinfecting food preparation areas as well as machinery and utensils used within the food processing cycle to eliminate the microorganisms that cause food poisoning. Adhering to the correct cleaning processes will also reduce the risk of pests such as rodents, flies and cockroaches in food preparation and processing areas by removing potential food sources and insect breeding sites.

#### **VI. Maintenance**

Establishing proactive maintenance measures for premises and food processing machinery to ensure they run smoothly and properly, and ensures the production of safe foods. Pests such as rats and mice can affect the way in which machines perform, gnawing at the power cables and contaminating the components that have direct contact with the products.

#### **VII. Personal hygiene**

Installing the correct facilities for staff to ensure proper personal hygiene is met which contributes towards meeting food safety requirements. Following factors must be considered to ensure personal hygiene:

- **Hand Washing** — ensure that effective hand washing techniques are followed at appropriate times.
- **Minimize hand contact with food** — try to minimize direct hand contact with raw food by using appropriate utensils and safe use of disposable gloves.



- **Personal cleanliness** — cover hair; do not sneeze or cough over food; cover cuts and sores; and do not wear jewelry.
- **Wear protective clothing** — wear suitable clean protective clothing and handle appropriately to prevent cross contamination.
- **Exclude ill staff** — staff must report illnesses; exclude staff with vomiting or diarrhea.

### **VIII. Environmental hygiene**

Food processing facilities rely on the use of potentially dangerous chemicals for sanitation and pest control. Because of this attention has to be applied to reduce the risk of accidental environmental contamination during the food processing cycle. Food safety practices need to be applied to ensure the chemicals stored and used on food processing premises do not contaminate the food products at any stage in production.

### **IX. Correct handling, storage & transport**

On top of food production and preparation, food safety also has to be applied during handling, storage and transportation, for both incoming deliveries and products going out to customers. A range of factors needs to be considered during these stages to ensure food products do not become contaminated. Temperature and humidity, hygiene of vehicles, containers and packaging, and even cyber security are all factors which need to consider during these stages of the food supply chain.

### **X. Staff training**

Educating staff on how to ensure food safety practices are followed will help reduce the risk of contamination. Regulations require that food handlers are supervised and trained in food hygiene practices suitable for their work activity. Areas which staff should be trained about include:

- Hand hygiene
- Safe food storage practices
- Safe food handling practices
- Cleaning for food safety
- Pest control

### **b) Food Safety requirements related to Processing:**

Apart from the above general globally prescribed requirements, there are certain requirements presented in Pure Food Rules, 2011 applicable in Pakistan to ensure safe and hygienic processing of food and related products. Some of the important requirements are as follows:-

- **Food additives:** the addition to any article of food of any food additive in contravention to the ones prescribed in Pure Food Rules, 2011 is prohibited. Natural colour used in food shall be pure, free from extraneous matter and adulterants.
- **Preservatives:** the use of preservative or preservatives shall be restricted to the limit up to which the use of such preservative or preservatives is permitted for the food or groups of food contained in such mixture as prescribed in Pure Food rules.
- **Flavoring:** The addition to any article of food of any flavoring agent, which is not permitted in the Pure Food Rules, 2011 shall be deemed illegal. No food shall contain any flavoring agent, which are by themselves toxic or contain contaminant materials which are toxic.
- **Antioxidants:** the anti-oxidants permitted in Pure Food Rules may be used in permitted flavoring agents in concentration not exceeding 0.01 percent.
- **The machinery and equipment:** used in the process of manufacturing should be of food grade material and in good sanitary condition and shall not be in such state which is likely to affect the quality of food or make it harmful to consume.
- **Covering:** Every vessel containing the food or ingredients for manufacturing of food shall be covered all the time with the tight fitting cover, lid or gauze in order to protect the food from dirt, flies and insects etc. and should be kept in a safe place away from impure air and harmful gasses.
- **Packaging:** All the wrappers, containers and packaging material should be of food grade material which will not contaminate the food or make it harmful.

*(Note: For details, refer to Punjab Food Authority website and Punjab Pure Food Rules, 2011)*

## **7. Who are the major accredited bodies working in Pakistan for ISO Food Safety Certification?**

Following are the major accredited bodies:

- Bureau Veritas Certification (BV Certification)
- SGS Pakistan (Pvt.) Limited, Systems and Servicer Certification
- Moody International (Pvt.) Limited
- Pakistan Systems Registrar
- RICCI Pakistan
- CeSP (Certification Services Pakistan)

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