

Government of the People's Republic of Bangladesh
Bangladesh Food Safety Authority
Ministry of Food
NOTIFICATION

Dated the _____ 2023

S.R.O. No. _____ -Regulation/2023-In exercise of the powers conferred by section 87 of the Food Safety Act 2013 (Act No. 43 of 2013), to be read with section 13 (2) (d), 13 (2) (e), 13 (4), and section 30 the Bangladesh Food Safety Authority, with the prior approval of the Government is hereby published the following regulations

1. Title and commencement:

- (1) These Regulations may be called the Food Safety (Determination and Control of microbiological contaminants) Regulations, 2023.
- (2) It shall come into force (minimum six month after the gazette notification)

2. Definitions:

- (1) In the Regulations, unless there is anything repugnant in the subject or context-
 - a) "Microorganisms" means acellular, unicellular, or multicellular microscopic organisms;
 - b) "Act" means the Food Safety Act, 2013 (Act No. 43 of 2013);
 - c) "Authority" means the Bangladesh Food Safety Authority as defined in clause (1) of section 2 of the Act;
 - d) "Schedule" means any Schedule to these Regulations;
 - e) "Microbiological contaminant" means any microorganism which may be present in food, whether or not added to food, during food production, processing, preparation, packaging, transportation, storage, environmental pollution, or otherwise, and the presence or excess of which causes foodborne disease or fatal food poisoning;
 - f) "Contaminant tolerance level determinant" means the schedule containing the name of the food, the scientific name of the microorganism, the number of food samples, the number of acceptable samples based on the presence or level of the microorganism, the tolerable level of the specific microorganism present in the sample and the test method for determining the presence or tolerance level of a specific microorganism in food; - which mentioned in schedule 1 to 8;
 - g) "Safe Food" means safe food as defined in clause (17) of section 2 in the Act
- (2) All words or expressions used in these Regulations but not defined or explained shall have the same meaning as in the Act.

3. Tolerable levels of microbial contaminants in food, use of Specifications and restrictions:

- (1) (a) The tolerable levels of microbial contaminants, use of specifications and restrictions for different types or categories of foodstuffs are mentioned in schedules- 1,2,3,4,5,6,7 for the meat and meat products including poultry, fruits, vegetables and their products, spices and herbs, eggs and egg products, ready to eat food, fish and fish products, milk and milk products respectively, the specified tolerance level described in column-7 for "Two class sampling" and column-8 for "Three class sampling" shall be required.
- (b) For potable water, the tolerable level mentioned in column-4 against the contaminants specified in column-3 of schedule-8 shall be applicable.



(2) 'n', 'c', 'm', 'M' and "Two Class Sampling Plan" and "Three Class Sampling Plan" mentioned in Schedule 1 to 7 shall be interpreted based on the test performed as per the methods stated in Schedule-9.

(3) In determining the amount of contaminants in food, the food business operator or any person shall comply with the tolerance level of contaminant specified in Schedules 1 to 8.

(4) A food business operator or any person or person acting on his/her behalf shall not, directly or indirectly, produce, process, store, supply, import, export, market, or sell any foodstuff containing any contaminant above the tolerable level specified in Schedules 1 to 8.

Provided that, in case of production, processing, storage, supply, import, export, marketing, or sale of any foodstuff not mentioned in Schedules 1 to 8, the Bangladesh national standard or, in the absence thereof, Codex Alimentarius or recognized international standards for determining the tolerable level of contaminants shall be followed.

4. Stage where the Microbiological Criteria shall apply:

- (1) The Microbiological Criteria for the product categories specified under Process Hygiene Criteria indicate the proper functioning of the production process. These are not to be used as requirements for releasing the products in the market. These are indicative contamination values above which corrective actions are required to maintain the process hygiene in compliance with food law. These shall be applicable at the end of the manufacturing process.
- (2) The Microbiological Criteria mentioned under Food Safety Criteria define the acceptability of a batch/lot and shall be met in respect of the product at the end of the manufacturing process and the products in the market during their shelf-life.

5. General guidelines for sampling:

(1) For the Regulators:

The sampling for different microbiological criteria specified in schedule 1-8 shall be ensured aseptically at manufacturing units and/or at retail points, as applicable, by a trained person with specialized knowledge in the field of microbiology following guidelines in the Food sample collection, testing and analysis regulation, 2017 (latest version). The samples shall be stored and transported in frozen condition at $-18^{\circ}\text{C}(\pm 2^{\circ}\text{C})$ or under refrigerated conditions at $2-5^{\circ}\text{C}$ as applicable except the products that are recommended to be stored at room temperature by the manufacturer to enable initiation of analysis within 24 hours of sampling. Preservatives shall not be added to sample units intended for microbiological examination. The desired number of sample units as per sampling plan given in the mentioned schedule shall be taken from same batch/lot and shall be submitted to the laboratory. A set (n) of five samples shall be tested from three different accredited and/or BFSA enlisted food testing laboratories and the final decision shall be drawn based on three test results. There will be no provision for retesting or resampling for microbiological testing. The testing in laboratory shall be ensured as per reference test methods given in schedule 9 for regulatory compliance.

(2) For FBO:

Food Business Operator (FBO) shall perform testing as appropriate as per the microbiological standards in Schedules 1 to 8 to ensure validation and verification of compliance with the microbiological requirements. FBO shall decide themselves, the necessary sampling and testing frequencies to ensure compliance with the specified microbiological requirements. However, FBO shall test their manufactured product in reference test methods given in Schedule 9 quarterly in the accredited and/or BFSA enlisted food testing laboratories and keep the records for 5 years.



FBO may use analytical methods other than those described in reference test methods given in Schedule 9 for in-house testing only. However, these methods shall not be applicable for regulatory compliance purpose.

6. Testing of food samples:

(1) To fulfill the purposes of this regulation, the Authority shall maintain and update a list of **ILAC/ISO 17025 accredited food laboratories** to detect or determine the presence or level of contaminants in food. However, in absence of accredited laboratories, any laboratories notified /designated by the authority shall be considered for microbiological testing and analysis of food samples.

(2) Food business operators shall be required to check the presence or levels of microbial contaminants in food laboratories listed by the Authority following the "Food Sampling, Testing, and Analysis Regulations, 2017".

(3) The test report (hard copy) received from the laboratory after testing the food sample shall be stored by the food business operator for a minimum of 3 (three) months after the expiration date of the food, and the soft copy of the test report received shall be stored electronically for a minimum of 1 (one) year, mentioned in sub-regulation (2).

Explanation: In pursuance of the objectives of this regulation—

a) food laboratory means any food laboratory or establishment, by whatever name called, established under any law or recognized by the National or International Accreditation Board of Laboratories; And

b) Food sample means food or their products collected from business premises for food testing or analysis.

7. Sampling plan and interpretation:

(1) The following terms, as used by the International Commission on Microbiological Specifications of Foods (ICMSF) are defined and used in these regulations:

n = The number of sample units which must be examined from the batch/lot of food to satisfy the requirements of a particular sampling plan.

c = the maximum allowable number of defective sample units. This is the number of sample units, which may exceed the microbiological limit specified by m . These are considered marginally acceptable results provided they did not exceed the limit specified by M . When more than this number is found; the lot is rejected by the sampling plan.

m = Represents an acceptable level and values above it are marginally acceptable in terms of the sampling plan.

M = A microbiological criterion which separates marginally acceptable quality from unsatisfactory/potentially hazardous quality. Values above M are unacceptable in terms of the sampling plan and detection of one or more samples exceeding this level would be cause for rejection of the lot.

Explanation: When 5 or more units of the same variety from a lot or consignment are analyzed ($n=5$), no more than 2 units ($c=2$) should exceed the maximum tolerance (m) for microbiological levels stated in the reference criteria and no 1 unit should exceed the stated level for the maximum tolerance (M).



(2) Microbiological criteria and their interpretation: Three categories of microbiological quality have been assigned in standard based on Total plate count, levels of indicator organisms (Coliform count and yeast & mold count) and the number or presence of pathogenic bacteria. These are satisfactory, unsatisfactory and potentially hazardous.

(a) Satisfactory: if a maximum of c value is between m and M, and the rest of the values observed are $< m$ --- means the results are within limits of acceptable microbiological quality and no action is required.

(b) Unsatisfactory: If one or more of the values observed are $> M$ or more than c values are between m and M --- means the results are outside acceptable microbiological limits linked with hygiene indicators (Total plate count, Coliform count, Yeast and mold count etc.) and are indicative of poor hygiene or poor handling practices. Under these conditions the premises producing such unsatisfactory product shall be stopped and will carry out a detailed investigations for nonconformity/ noncompliance during manufacturing, storage, transport and mandatorily inform the Authority about the cause and remedial steps taken to improve the situation. The restarting of manufacturing of such product may require HACCP/GMP audit clearance of the premises by the Authority. The manufacturing of such product will be re-started after getting clearance from the Authority and compliance of fresh product with the regulatory limits.

(c) Potentially hazardous: If one or more of the values observed are $> M$ or more than c values are between m and M --- means the results are outside acceptable microbiological limits linked with pathogenic bacteria (*E. coli*, *Salmonella spp*, coagulase positive *Staph aureus*, *B.cereus*, *Cl. Perfringens*, *L. monocytogenes*) and are indicative of serious food safety concern and immediate remedial action should be initiated. Such results will attract enforcement/prosecution by the authority. Withdrawal of any of the food still available for sale or distribution and if applicable, recall action may be initiated. An investigation of food production or handling practices shall be investigated to determine the source /cause of the potential of the problem so that remedial action can commence. A detail risk assessment shall also be done and mandatorily inform the Authority about the cause and remedial steps taken to improve the situation. Failure by an owner to either cease manufacture of product or withdraw/recall product from sale when requested to do so shall result in seizure of that product where the authorized officer has reason to believe that it is contaminated with pathogenic bacteria.

8. Inapplicability:

The provisions of the Pure Food Rules, 1967 which are related to the provisions of these regulations shall be inapplicable as soon as may be after these regulations have come into force.

9. Usage of Relevant Law, Rules and Regulations:

Any law, rules and regulations and references mentioned here, if further updated, revised or amended, will be applied automatically for these regulations; no further notifications or amendment of the regulation won't be necessary in this case.

10. Publication of English Text:

After the commencement of these regulations, the Authority, shall, if necessary, with prior approval of the Government, by notification in the official Gazette, publish an Authentic English



Text of these regulations: Provided that in case of conflict between the Bangla text and the English text, the Bangla text shall prevail. (to be included in the Bengali version)

Schedule 1

Meat and Meat Products including Poultry

SL. No.	Food Category	Type of Contaminant	Name of Microbiological Contaminant	Sampling Plan		Limits	
				n	c	m	M
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Fresh meat	Process Hygiene Criteria	Aerobic Plate/ Colony Count (cfu/g)	5	3	1×10^6	5×10^6
			Yeast and Mold Count (cfu/g)	5	2	1×10^4	5×10^4
			<i>Escherichia coli</i> (cfu/g)	5	2	1×10^2	1×10^3
			<i>Staphylococcus aureus</i> (cfu/g)	5	2	1×10^2	1×10^3
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	
2	Chilled meat	Process Hygiene Criteria	Aerobic Plate/ Colony Count (cfu/g)	5	3	5×10^5	5×10^6
			Yeast and Mold Count (cfu/g)	5	2	1×10^4	5×10^4
			<i>Escherichia coli</i> (cfu/g)	5	2	1×10^2	1×10^3
			<i>Staphylococcus aureus</i> (cfu/g)	5	2	1×10^2	1×10^3
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	
3	Frozen meat	Process Hygiene Criteria	Aerobic Plate/ Colony Count (cfu/g)	5	2	1×10^5	5×10^6
			Yeast and Mold Count (cfu/g)	5	2	1×10^3	1×10^4
			<i>Escherichia coli</i> (cfu/g)	5	2	1×10^2	1×10^3
			<i>Staphylococcus aureus</i> (cfu/g)	5	2	1×10^2	1×10^3
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	
4	Raw marinated /minced /comminuted meat products	Process Hygiene Criteria	Aerobic Plate/ Colony Count (cfu/g)	5	3	1×10^6	5×10^6
			Yeast and Mold Count (cfu/g)	5	2	1×10^4	5×10^4
			<i>Escherichia coli</i> (cfu/g)	5	2	1×10^2	1×10^3
			<i>Staphylococcus aureus</i> (cfu/g)	5	2	1×10^2	1×10^3
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	

SL. No.	Food Category	Type of Contaminant	Name of Microbiological Contaminant	Sampling Plan		Limits	
				n	c	m	M
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
5	Semi-cooked /Smoked Meat/meat food Product	Process Hygiene Criteria	Aerobic Plate/ Colony Count (cfu/g)	5	2	1x10 ⁴	1x10 ⁵
			Yeast and Mold Count (cfu/g)	5	2	1x10	1x10 ²
			<i>Escherichia coli</i> (cfu/g)	5	2	1x10	1x10 ²
			<i>Staphylococcus aureus</i> (cfu/g)	5	2	1x10	1x10 ²
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	
			<i>Campylobacter spp</i> (for Poultry) /g	5	0	Absent	
6	Cured/Pickled meat	Process Hygiene Criteria	Aerobic Plate/Colony Count (cfu/g)	5	2	5x10 ²	5x10 ³
			Yeast and Mold Count (cfu/g)	5	2	1x10 ²	1x10 ³
			<i>Escherichia coli</i> (cfu/g)	5	2	1x10	1x10 ²
			<i>Staphylococcus aureus</i> (cfu/g)	5	1	1x10 ²	1x10 ³
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	
			<i>Listeria monocytogenes</i> /25g	5	0	Absent	
			Sulphite Reducing Clostridia (cfu/g)	5	2	5x10 ²	5x10 ³
7	Fermented meat products	Process Hygiene Criteria	Aerobic Plate/Colony Count (cfu/g)	NA			
			Yeast and Mold Count (cfu/g)	NA			
			<i>Escherichia coli</i> (cfu/g)	5	2	1x10	1x10 ²
			<i>Staphylococcus aureus</i> (cfu/g)	5	1	1x10 ²	1x10 ³
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	
			<i>Listeria monocytogenes</i> /25g	5	0	Absent	
			Sulphite Reducing Clostridia (cfu/g)	5	2	5x10 ²	5x10 ³
8	Dried/dehydrated meat product	Process Hygiene Criteria	Aerobic Plate/Colony Count (cfu/g)	5	2	1x10 ³	1x10 ⁴
			Yeast and Mold Count (cfu/g)	5	2	1x10 ²	1x10 ³
			<i>Escherichia coli</i> (cfu/g)	5	2	1x10	1x10 ²
			<i>Staphylococcus aureus</i> (cfu/g)	5	1	1x10	1x10 ²
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	
			<i>Listeria monocytogenes</i> /25g	5	0	Absent	
			Sulphite Reducing Clostridia (cfu/g)	5	2	5x10 ²	5x10 ³

SL. No.	Food Category	Type of Contaminant	Name of Microbiological Contaminant	Sampling Plan		Limits	
				n	c	m	M
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
9	Cooked Meat Products	Process Hygiene Criteria	Aerobic Plate/Colony Count (cfu/g)	5	2	1x10 ³	1x10 ⁴
			Yeast and Mold Count (cfu/g)	5	1	1x10	1x10 ²
			<i>Escherichia coli</i> (cfu/g)	5	2	1x10	1x10 ²
			<i>Staphylococcus aureus</i> (cfu/g)	5	1	1x10	1x10 ²
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	
			<i>Listeria monocytogenes</i> /25g	5	0	Absent	
			Sulphite Reducing Clostridia (cfu/g)	5	1	1x10 ²	1x10 ³
			<i>Campylobacter spp</i> (for Poultry) /g	5	0	Absent	
10	Canned/ Retort pouch Meat Products	Process Hygiene Criteria	Aerobic Plate/Colony Count (cfu/g)	NA			
			Yeast and Mold Count (cfu/g)	NA			
			<i>Escherichia coli</i> /g	5	0	Absent	
			<i>Staphylococcus aureus</i> /g	5	0	Absent	
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	
			<i>Listeria monocytogenes</i> /25g	5	0	Absent	
			Sulphite Reducing Clostridia /g	5	0	Absent	
			<i>Campylobacter spp</i> (for Poultry) /g	5	0	Absent	
			<i>Clostridium Botulinum</i> /g	5	0	Absent	

Product Definitions:

- (1) **Canned/Retorted meat product:** Meat products packed in hermetically sealed containers which have been heat-treated after sealing to such an extent that the product is shelf stable.
- (2) **Chilled meat:** Fresh meat which has been washed with potable water and kept between 0-7 °C.
- (3) **Cooked meat/meat product:** Meat/meat product subjected to heat treatment, wherein the minimum thermal core temperature of 75°C is achieved.
- (4) **Cured/pickled meat products:** Products prepared after curing/pickling meat in a solution containing salt, nitrate/nitrite, and adjuncts for the purpose of preservation and obtaining desirable color, flavor, and shelf life.
- (5) **Dried/Dehydrated meat/meat products:** Meat/meat products in which part of free water has been removed by evaporation or sublimation.

- (6) **Fermented meat product:** Chopped or ground meat products that have undergone the aging process and developed characteristics of low pH, unique flavor, taste, texture, and long shelf life through the action of desirable microorganisms.
- (7) **Fresh meat:** Meat that has not been treated in any way to ensure its preservation.
- (8) **Frozen meat:** Fresh meat which has been washed with potable water, chilled, and subjected to freezing in an appropriate equipment in such a way that the product attains a temperature of -18°C or colder at the thermal center after thermal stabilization.
- (9) **Raw marinated/minced/comminuted meat:** Meat with or without bones that has been reduced to fragments by cutting/grinding/dicing/chopping/milling and/or marinating with or without additives.
- (10) **Semi-cooked /Smoked Meat/meat food Product:** Partially heat treated and/or smoked meat and meat products heated below 75°C, but above 60°C and where there may be a microbiological safety risk; such type of products shall be treated as semi-cooked products. These products shall be reheated above 75°C before consumption. Special instruction shall also be given on the product label stating reheating the product above 75°C before consumption.
- (11) **Raw Process Products:** Products exposed to heating but below 60°C shall be treated as raw processed meat products. Such types of products shall be cooked above 75°C before consumption.
- (12) **Poultry:** means any bird species reared under human supervision and mitigates the animal-based protein requirement for human consumption.

Schedule 2

Fruits, Vegetables and Their Products

Sl. No	Name of food/ Commodity	Type of Contaminant	Name of Microbiological Contaminant	Sampling plan		Limits	
				n	c	m	M
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Cut or minimally processed and packed, including juices (Nonthermally processed)	Process Hygiene Criteria	Aerobic Plate/ Colony Count (cfu/g)	5	2	1x10 ⁶	1x10 ⁷
			Yeast and Mold Count (cfu/g)	5	1	1x10 ²	1x10 ⁴
			Total coliform / <i>Enterobacteriaceae</i> (cfu/g)	5	2	1x10 ²	1x10 ⁴
			(Coagulase +ve) <i>Staphylococcus aureus</i> (cfu/g)	5	2	1x10 ²	1x10 ³
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	NA
			<i>Listeria monocytogenes</i> /25g	5	0	Absent	NA
			<i>Vibrio cholerae/parahaemolyticus</i> /25g	5	0	Absent	NA
			<i>E. Coli</i> O157 or Vero or Shiga toxin producing <i>E coli</i> /25g	5	0	Absent	NA
2	Fresh Fruits/ vegetables/Salad	Process Hygiene	Aerobic Plate/ Colony Count (cfu/g)	5	2	1x10 ⁵	1x10 ⁶

Sl. No	Name of food/ Commodity	Type of Contaminant	Name of Microbiological Contaminant	Sampling plan		Limits	
				n	c	m	M
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	in ready-to-eat packaged form	Criteria	Yeast and Mold Count (cfu/g)	5	2	1x10 ³	1x10 ⁴
			Total coliform / <i>Enterobacteriaceae</i> (cfu/g)	5	1	1x10 ²	1x10 ³
			(Coagulase +ve) <i>Staphylococcus aureus</i> (cfu/g)	5	1	1x10 ³	1x10 ⁴
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	
			<i>Escherichia coli</i> (cfu/g)	5	1	1x10	1x10 ²
			Hemolysin-producing <i>B. cereus</i> (cfu/g)	5	0	Absent	NA
			<i>Vibrio cholerae/parahaemolyticus</i> /25g	5	0	Absent	NA
3	Fruit jam, jelly	Process Hygiene Criteria	Aerobic Plate/ Colony Count (cfu/g)	5	2	1x10 ²	1x10 ⁴
			Yeast and Mold Count (cfu/ml)	5	0	1x10 ²	NA
			Total coliform/ <i>Enterobacteriaceae</i> (cfu/g)	5	1	1x10 ³	1x10 ⁴
			(Coagulase +ve) <i>Staphylococcus aureus</i> (cfu/g)	5	1	1x10 ²	1x10 ³
		Food Safety Criteria	<i>E. Coli</i> O157 or Vero or Shiga toxin producing <i>E coli</i> /25g	5	0	Absent	NA
			<i>Salmonella</i> (Cfu/25g)	5	0	Absent	NA
			Hemolysin-producing <i>B. cereus</i> (cfu/g)	5	0	Absent	NA
4	Pasteurized fruit juice and drinks	Process Hygiene Criteria	Aerobic Plate/ Colony Count (cfu/ml)	5	2	5x10 ³	1x10 ⁴
			Yeast and Mold Count (cfu/ml)	5	2	1x10 ²	1x10 ³
			Total coliform/ <i>Enterobacteriaceae</i> /g	5	1	1x10	1x10 ²
			(Coagulase +ve) <i>Staphylococcus aureus</i> (cfu/ml)	5	0	Absent	NA
		Food Safety Criteria	<i>Salmonella</i> /25ml	5	0	Absent	NA
			<i>Listeria monocytogenes</i> /25ml (excluded when pH<4.4)	5	0	Absent	NA
			<i>Vibrio cholerae/parahaemolyticus</i> /25ml	5	0	Absent	NA
			<i>E. Coli</i> O157 or Vero or Shiga toxin producing <i>E coli</i> /25g	5	0	Absent	NA
5	Carbonated fruit beverages	Process Hygiene Criteria	Aerobic Plate/ Colony Count (cfu/ml)	5	1	1x10 ²	3x10 ²
			Yeast and Mold Count (cfu/ml)	5	1	<10	
			Total coliform/ <i>Enterobacteriaceae</i> /ml	5	1	0	10
			(Coagulase +ve) <i>Staphylococcus aureus</i> (cfu/ml)	5	0	Absent	NA
		Food Safety Criteria	<i>Salmonella</i> /25ml	5	0	Absent	NA
			<i>Listeria</i>	5	0	Absent	NA

Sl. No	Name of food/ Commodity	Type of Contaminant	Name of Microbiological Contaminant	Sampling plan		Limits	
				n	c	m	M
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			<i>monocytogenes</i> /25ml (excluded when pH<4.4)				
			<i>Vibrio cholerae/parahaemolyticus</i> /25ml	5	0	Absent	NA
			<i>E. Coli</i> O157 or Vero or Shiga toxin producing <i>E coli</i> /25g	5	0	Absent	NA
			<i>Pseudomonas.aeruginosa</i> (cfu/ml)	5	0	Absent	NA
			<i>Clostridium perfringens</i> (cfu/ml)	5	0	Absent	NA
6	Frozen Fruit	Process Hygiene Criteria	Aerobic Plate/ Colony Count (cfu/g)	5	2	4x10 ⁴	1x10 ⁶
			Yeast and Mold Count (cfu/g)	5	1	1x10 ²	1x10 ³
			Total coliform/ <i>Enterobacteriaceae</i> (cfu/g)	5	2	1x10 ²	3x10 ²
			(Coagulase +ve) <i>Staphylococcus aureus</i> (cfu/g)	5	0	Absent	NA
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	NA
			<i>Listeria monocytogenes</i> /25g	5	0	Absent	NA
			<i>Vibrio cholerae/parahaemolyticus</i> /25g	5	0	Absent	NA
			<i>E. Coli</i> O157 or Vero or Shiga toxin producing <i>E coli</i> /25g	5	0	Absent	NA
7	Dehydrated or dried (FSSAI)	Process Hygiene Criteria	Aerobic Plate/ Colony Count (cfu/g)	5	2	1x10 ⁵	1x10 ⁶
			Yeast and Mold Count (cfu/g)	5	1	1x10 ²	1x10 ⁴
			Total coliform/ <i>Enterobacteriaceae</i> (cfu/g)	5	1	1x10 ²	1x10 ³
			(Coagulase +ve) <i>Staphylococcus aureus</i> (cfu/g)	5	0	Absent	NA
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	NA
			<i>Listeria monocytogenes</i> /25g	5	0	Absent	NA
			<i>Vibrio cholerae/parahaemolyticus</i> /25g	5	0	Absent	NA
			<i>E. Coli</i> O157 or Vero or Shiga toxin producing <i>E coli</i> /25g	5	0	Absent	NA
8	Thermally processed (other than pasteurization at less than 100°C)	Process Hygiene Criteria	Aerobic Plate/ Colony Count (cfu/g)	5	2	5x10 ³	1x10 ⁴
			Yeast and Mold Count (cfu/g)	5	2	1x10 ²	1x10 ³
			Total coliform/ <i>Enterobacteriaceae</i> (cfu/g)	5	1	1x10	1x10 ²
			(Coagulase +ve) <i>Staphylococcus aureus</i> (cfu/g)	5	0	Absent	NA
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	NA
			<i>Listeria monocytogenes</i> /25g	5	0	Absent	NA

Sl. No	Name of food/ Commodity	Type of Contaminant	Name of Microbiological Contaminant	Sampling plan		Limits	
				n	c	m	M
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			<i>Vibrio cholerae/parahaemolyticus</i> /25g	5	0	Absent	NA
			<i>E. Coli</i> O157 or Vero or Shiga toxin producing <i>E coli</i> /25g	5	0	Absent	NA
9	Fermented or pickled or acidified or with preservatives	Process Hygiene Criteria	Aerobic Plate/ Colony Count (cfu/g)	NA			NA
			Yeast and Mold Count (cfu/g)	5	2	1x10 ²	1x10 ⁴
			Total coliform/ <i>Enterobacteriaceae</i> (cfu/g)	5	2	1x10 ²	1x10 ³
			(Coagulase +ve) <i>Staphylococcus aureus</i> (cfu/g)	5	0	Absent	NA
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	NA
			<i>Listeria monocytogenes</i> /25g	5	0	Absent	NA
			<i>E. Coli</i> O157 or Vero or Shiga toxin producing <i>E coli</i> /25g	5	0	Absent	NA
			<i>Vibrio cholerae/parahaemolyticus</i> /25g	5	0	Absent	NA
10	Retort Processed	Process Hygiene Criteria	Aerobic Plate/ Colony Count (cfu/g)	5	0	5x10	NA
			Yeast and Mold Count (cfu/g)	NA			
			<i>Enterobacteriaceae</i> /g	5	0	Absent	NA
			(Coagulase +ve) <i>Staphylococcus aureus</i> (cfu/g)	5	0	Absent	NA
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	NA
			<i>Listeria monocytogenes</i> /25g	5	0	Absent	NA
			<i>E. Coli</i> O157 or Vero or Shiga toxin producing <i>E coli</i> /25g	5	0	Absent	NA
			<i>Vibrio cholerae/parahaemolyticus</i> /25g	5	0	Absent	NA
			Sulphite Reducing Clostridia (SRC)/25g	5	0	Absent	NA

Product definitions:

- a) **Fresh Fruits/ vegetables/Salad:** The fruits and vegetables that are sold fresh either in whole or cut or in salad form in packed condition.
- b) **Cut or minimally processed and packaged including juices:** Fruits and vegetables which are washed or sanitized or peeled or cut up and made in to juice and packed.
- c) **Fermented or pickled or acidified or with preservatives:** Fruits and vegetables including their products that are preserved using living ferments like yeast, bacterium, mold, enzyme or in brine to produce lactic acid or marinating and storing it in an acid solution, usually vinegar (acetic acid), salt and sugar.

d) **Pasteurized Juices:** Fruit and vegetable juices that are subjected to pasteurization to destroy or inactivate harmful microorganisms.

e) **Carbonated fruit beverages (and fruit drinks):** Any beverage or drink prepared from fruit juice and water or carbonated water that contains sugar, dextrose, inverted sugar, or liquid glucose either alone or in combination that may also contain peel oil and fruit essences. Any additional ingredients that are suitable for the products may also be included.

f) **Frozen:** Fruits and vegetables including their products, are subjected to a freezing process and maintained at temperature of -18°C.

g) **Dehydrated or dried:** Fruits and vegetables including their products which are preserved by removing most of their water content following an appropriate dehydrating process.

h) **Thermally processed (other than pasteurization at less than 100°C):** Fruits and vegetables, including their product, are processed by heat appropriately before or after being sealed in a container to prevent spoilage.

i) **Retort processed:** Fruits and vegetables, including their canned or flexible packaged products, or processed by retorting.

Schedule 3

Spices and Herbs

Sl. No	Name of food/ Commodity	Type of Contaminant	Name of Microbiological Contaminant	Sampling plan		Limits	
				n	c	m	M
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Dried/dehydrated spice and herbs in ready to eat and ready to cook form	Hygiene Indicator organism	Aerobic Plate count (cfu/g)	5	2	2x10 ⁵	1x10 ⁶
			<i>Staphylococcus aureus</i> (coagulase positive) (cfu/g)	5	2	1x10 ²	1x10 ³
			Enterobacteriaceae (cfu/g) or coliform (cfu/g)	5	2	1x10 ²	1x10 ⁴
			Yeast and mold count (cfu/g)	5	2	1x10 ⁴	1x10 ⁵
		Safety Indicator Organism	<i>Bacillus cereus</i> (cfu/g)	5	2	1x10 ³	1x10 ⁴
			<i>Salmonella</i> spp/25g	5	0	Absent	NA
			Sulfite reducing <i>Clostridium</i> (cfu/g)	5	2	1x10 ²	1x10 ³
2	Ground or powdered in ready to eat and in ready to cook form	Hygiene Indicator Organism	Aerobic Plate count (cfu/g)	5	2	2x10 ⁵	1x10 ⁶
			<i>Staphylococcus aureus</i> (coagulase positive) (cfu/g)	5	2	1x10 ²	1x10 ³
			Enterobacteriaceae (cfu/g) or coliform (cfu/g)	5	2	1x10 ²	1x10 ³

Sl. No	Name of food/ Commodity	Type of Contaminant	Name of Microbiological Contaminant	Sampling plan		Limits	
				n	c	m	M
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Safety Indicator Organism	Yeast and mold count (cfu/g)	5	2	1x10 ⁴	1x10 ⁵
			<i>Bacillus cereus</i> (cfu/g)	5	2	1x10 ³	1x10 ⁴
			<i>Salmonella</i> spp/25g	5	0	Absent	NA
			Sulfite reducing <i>Clostridium</i> (cfu/g)	5	2	1x10 ²	1x10 ³
3	Wet ground (Paste)/ preserved /pickled in ready to cook form	Hygiene Indicator Organism	Aerobic Plate count (cfu/g)	5	2	1x10 ³	1x10 ⁴
			<i>Staphylococcus aureus</i> (coagulase positive) (cfu/g)	5	2	10	1x10 ²
			Enterobacteriaceae (cfu/g) or coliform (cfu/g)	5	2	1x10 ²	1x10 ³
			Yeast and mold count (cfu/g)	5	2	1x10 ³	1x10 ⁴
		Safety Indicator Organism	<i>Bacillus cereus</i> (cfu/g)	5	2	10	1x10 ²
			<i>Salmonella</i> spp/25g	5	0	Absent	NA
4	Sauce derived from spices	Hygiene Indicator Organism	Aerobic Colony Count (cfu/g)	5	2	1x10 ³	1x10 ⁴
			Coliform Count (cfu/g)	5	2	10	1x10 ²
			<i>Staphylococcus aureus</i> (coagulase positive)/g	5	2	1x10 ²	1x10 ³
			Yeast & Mould Count (cfu/g)	5	2	1x10 ³	1x10 ⁴
		Safety Indicator Organism	<i>Salmonella</i> spp/25g	5	0	Absent	NA

Product definition:

1. Dried or dehydrated: The product obtained by drying/ removal of most of the moisture by any suitable method which ensures characteristics of fresh spices on rehydration or pre-cooking.
2. Ground or powdered: Ground or powdered product obtained by grinding or crushing of clean dried/dehydrated fruits, capsules, buds, seeds, rhizomes, aril, kernel, berries and stigmas etc.
3. Wet ground (paste)/preserved / pickled: Semi solid, preserved product using brine, vinegar and other permitted preservatives or physical methods.



Schedule 4

Egg and Egg Products

SL. No.	Food Category	Type of Contaminant	Name of Microbiological Contaminant	Sampling Plan		Limits	
				n	c	m	M
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Table Egg			NA			
2	Pasteurized Liquid egg products (whole, yolk or albumin liquid)	Process Hygiene Criteria	Aerobic Plate/ Colony Count (cfu/g)	5	2	1x10 ⁴	1x10 ⁵
			Total Coliform (cfu/g)	5	2	1x10	1x10 ²
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	
			<i>Listeria monocytogenes</i> /25g	5	0	Absent	
3	Liquid non pasteurized egg products	Process Hygiene Criteria	Aerobic Colony Count (cfu/g)	5	2	1x10 ⁴	1x10 ⁵
			Total Coliform (cfu/g)	5	2	1x10 ²	1x10 ³
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	
4	Egg powder/ Yolk powder	Process Hygiene Criteria	Aerobic Colony Count (cfu/g)	5	2	1x10 ²	1x10 ³
			Total Coliform (cfu/g)	5	2	1x10	1x10 ²
			<i>Staphylococcus aureus</i> (cfu/g)	5	2	1x10	1x10 ²
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	
			<i>Listeria monocytogenes</i> /g	5	0	Absent	
5	Frozen /dried egg products	Process Hygiene Criteria	Aerobic Plate/ Colony Count (cfu/g)	5	2	1x10 ⁴	1x10 ⁵
			Total Coliform (cfu/g)	5	2	1x10	1x10 ²
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	
			<i>Listeria monocytogenes</i> /25g	5	0	1x10 ²	
6	Cooked/ready-to-eat egg products including mayonnaises	Process Hygiene Criteria	Aerobic Plate/ Colony Count (cfu/g)	5	2	1x10 ⁴	1x10 ⁵
			Enterobacteriaceae (cfu/g)	5	2	1x10	1x10 ²
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	
			<i>Listeria monocytogenes</i> /25g	5	0	Absent	

The category "Table egg" shall be regulated in accordance with the good manufacturing practices and code of good hygiene practices notified under BFSA regulations.



Schedule 5

Ready-to-Eat food (Bakery, Fast food, Sugar, Honey, Molasses, Confectionary and Chocolate etc.)

SL. No.	Food Category	Type of Contaminant	Name of Microbiological Contaminant	Sampling Plan		Limits	
				n	c	m	M
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Bakery, Fast food	Process Hygiene Criteria	E. coli (cfu/g)	5	0	<10	10
		Food Safety Criteria	Staphylococcal enterotoxins/25g	5	0	Absent	NA
			Bacillus cereus (cfu/g)	5	2	1x10 ²	1x10 ³
			Salmonella/25g	5	0	Absent	NA
2	Sugar, Honey, molasse, confectionary, chocolate	Food Safety Criteria	Staphylococcal enterotoxins/25g	5	0	Absent	NA
			Salmonella/25g	5	0	Absent	NA

Schedule 6

Fish and Fishery products

SL. No.	Food Category	Type of Contaminant	Name of Microbiological Contaminant	Sampling Plan		Limits	
				n	c	m	M
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Fresh/Chilled/Frozen Finfish	Process Hygiene Criteria	Aerobic Plate/Colony Count (cfu/g)	5	3	5x10 ⁵	1x10 ⁷
		Food Safety Criteria	<i>Escherichia coli</i> (MPN/g)	5	3	11	5x10 ²
			<i>Salmonella</i> /25g	5	0	Absent	
			<i>Vibrio cholerae</i> /25g	5	0	Absent	
			<i>Vibrio parahaemolyticus</i> /25g	5	2	1x10 ²	1x10 ³
			<i>Clostridium perfringens</i> /25g	5	0	Absent	
			<i>Staphylococcus aureus</i> (cfu/g)	5	2	1x10 ³	1x10 ⁴
2	Fresh/Chilled/Frozen	Process Hygiene	Aerobic Plate/Colony Count (cfu/g)	5	3	1x10 ⁶	1x10 ⁷

SL. No.	Food Category	Type of Contaminant	Name of Microbiological Contaminant	Sampling Plan		Limits	
				n	c	m	M
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	en Crustaceans	Criteria					
		Food Safety Criteria	<i>Escherichia coli</i> (MPN/g)	5	3	11	5x10 ²
			<i>Salmonella</i> /25g	5	0	Absent	
			<i>Vibrio cholerae</i> /25g	5	0	Absent	
			<i>Staphylococcus aureus</i> (cfu/g)	5	2	1x10 ³	1x10 ⁴
			<i>Vibrio parahaemolyticus</i> /25g	5	1	1x10 ²	1x10 ³
3	Fresh/Chilled/Frozen Cephalopods	Process Hygiene Criteria	Aerobic Plate/Colony Count (cfu/g)	5	2	1x10 ⁵	1x10 ⁶
		Food Safety Criteria	<i>Escherichia coli</i> (MPN/g)	5	3	11	5x10 ²
			<i>Salmonella</i> /25g	5	0	Absent	
			<i>Vibrio cholerae</i> /25g	5	0	Absent	
4	Live Bivalve Molluscs	Process Hygiene Criteria	Aerobic Plate/Colony Count (cfu/g)	NA			
		Food Safety Criteria	<i>Escherichia coli</i> (MPN/g)	5	1	230/100 g	700/100 g
5	Fresh/Chilled/Frozen Bivalves	Process Hygiene Criteria	Aerobic Plate/Colony Count (cfu/g)	5	2	1x10 ⁵	1x10 ⁶
		Food Safety Criteria	<i>Escherichia coli</i> (MPN/g)	5	1	46	110
			<i>Salmonella</i> /25g	10	0	Absent	
			<i>Vibrio cholerae</i> /25g	5	0	Absent	
6	Frozen Cooked Crustaceans/ Frozen Heat Shucked Mollusc	Process Hygiene Criteria	Aerobic Plate/Colony Count (cfu/g)	5	2	1x10 ⁵	1x10 ⁶
			Staphylococci (cfu/g)	5	2	1x10 ²	1x10 ³
		Food Safety Criteria	<i>Escherichia coli</i> (MPN/g) or	5	2	11	5x10 ²
			<i>Salmonella</i> /25g	5	0	Absent	
			<i>Vibrio cholerae</i> /25g	5	0	Absent	
			<i>Listeria monocytogenes</i> /25g	5	0	Absent	
			<i>Vibrio parahaemolyticus</i> /25g	5	0	Absent	
7	Dried/Salted and Dried Fishery Products	Process Hygiene Criteria	Aerobic Plate/Colony Count (cfu/g)	5	2	1x10 ⁵	1x10 ⁶
			Yeast & Mold Count (cfu/g)	5	2	1x10 ²	5x10 ²
		Food Safety Criteria	<i>Escherichia coli</i> (MPN/g)	5	1	20	110

SL. No.	Food Category	Type of Contaminant	Name of Microbiological Contaminant	Sampling Plan		Limits	
				n	c	m	M
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			<i>Salmonella</i> /25g	5	0	Absent	
8	Fermented Fishery Products	Process Hygiene Criteria	Aerobic Plate/Colony Count (cfu/g)	NA			
			Staphylococci (cfu/g)	5	1	1x10 ²	1x10 ³
			Yeast & Mold Count (cfu/g)	5	0	1x10 ²	NA
		Food Safety Criteria	<i>Escherichia coli</i> (MPN/g)	5	1	20	110
			<i>Salmonella</i> /25g	10	0	Absent	
			<i>Clostridium botulinum</i> /g	5	0	Absent	
9	Smoked Fishery Products	Process Hygiene Criteria	Aerobic Plate/Colony Count (cfu/g)	5	0	1x10 ⁵	NA
			Staphylococci (cfu/g)	5	2	1x10 ²	1x10 ³
		Food Safety Criteria	<i>Escherichia coli</i> (MPN/g)	5	3	11	5x10 ²
			<i>Salmonella</i> /25g	5	0	Absent	
			<i>Vibrio cholerae</i> /25g	5	0	Absent	
			<i>Listeria monocytogenes</i> /25g	5	0	Absent	
10	Accelerated Freeze Dried Fishery Products	Process Hygiene Criteria	Aerobic Plate/Colony Count (cfu/g)	5	0	1x10 ⁴	NA
			Staphylococci (cfu/g)	5	0	1x10 ²	NA
		Food Safety Criteria	<i>Escherichia coli</i> (MPN/g)	5	2	11	500
			<i>Salmonella</i> /25g	5	0	Absent	
			<i>Vibrio cholerae</i> /25g	5	0	Absent	
			<i>Listeria monocytogenes</i> /25g	5	0	Absent	
11	Fish Mince/Surimi and Analogues	Process Hygiene Criteria	Aerobic Plate/Colony Count (cfu/g)	5	2	1x10 ⁵	1x10 ⁶
			Staphylococci (cfu/g)	5	2	1x10 ²	1x10 ³
		Food Safety Criteria	<i>Escherichia coli</i> (MPN/g)	5	1	20	110
			<i>Salmonella</i> /25g	5	0	Absent	
			<i>Vibrio cholerae</i> /25g	5	0	Absent	
			<i>Listeria monocytogenes</i> /25g	5	0	Absent	
12	Fish Pickle	Process Hygiene Criteria	Aerobic Plate/Colony Count (cfu/g)	5	0	1x10 ³	
			Staphylococci (cfu/g)	5	1	1x10 ²	1x10 ³
			Yeast & Mold Count (cfu/g)	5	0	1x10 ²	NA

SL. No.	Food Category	Type of Contaminant	Name of Microbiological Contaminant	Sampling Plan		Limits	
				n	c	m	M
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Food Safety Criteria	<i>Escherichia coli</i> (MPN/g)	5	1	20	110
			<i>Salmonella</i> /25g	5	0	Absent	
13	Battered and Breaded Fishery Products	Process Hygiene Criteria	Aerobic Plate/Colony Count (cfu/g)	5	2	1x10 ⁵	1x10 ⁷
			Staphylococci (cfu/g)	5	1	1x10 ²	1x10 ³
			Yeast & Mold Count (cfu/g)	5	0	1x10 ²	
		Food Safety Criteria	<i>Escherichia coli</i> (MPN/g)	5	2	11	5x10 ²
			<i>Salmonella</i> /25g	5	0	Absent	
			<i>Vibrio cholerae</i> /25g	5	0	Absent	
			<i>Listeria monocytogenes</i> /25g	5	0	Absent	
14	Convenience Fishery Products	Process Hygiene Criteria	Aerobic Plate/Colony Count (cfu/g)	5	2	1x10 ³	1x10 ⁴
			Staphylococci (cfu/g)	5	2	1x10 ²	1x10 ³
		Food Safety Criteria	<i>Escherichia coli</i> (MPN/g)	5	2	1	10
			<i>Salmonella</i> /25g	5	0	Absent	
			<i>Vibrio cholerae</i> /25g	5	0	Absent	
			<i>Listeria monocytogenes</i> /25g	5	0	Absent	
15	Powdered Fish Based Products	Process Hygiene Criteria	Aerobic Plate/Colony Count (cfu/g)	5	2	1x10 ⁴	1x10 ⁵
			Staphylococci (cfu/g)	5	2	10	1x10 ²
			Yeast & Mold Count (cfu/g)	5	0	1x10 ²	NA
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	
16	Canned shrimp and fish	Process Hygiene Criteria	Aerobic Plate Count (cfu/g)	NA (Commercially Sterile)			
		Food Safety Criteria	<i>Escherichia coli</i> (cfu/g)	5	0	Absent	
			<i>Salmonella</i> /25g	5	0	Absent	
			<i>Shigella</i> /g	5	0	Absent	
			<i>Clostridium botulinum</i> /g	5	0	Absent	
17	Salted Fish	Process Hygiene Criteria	Aerobic Plate Count (cfu/g)	5	2	1x10 ⁵	1x10 ⁶
		Food Safety Criteria	<i>Escherichia coli</i> /g	5	0	Absent	
			Staphylococci /g	5	0	Absent	

Product Definitions:



(1) **Chilled/Frozen Finfish** includes clean and wholesome finfish, which are either in raw, chilled or frozen condition and handled in accordance with good manufacturing practices. Chilling is the process of cooling fish or fish products to a temperature approaching that of melting ice. Chilling can be achieved using ice, chilled water, ice slurries of seawater and freshwater, or refrigerated seawater. Similarly, freezing is the process that is sufficient enough to reduce the temperature of the whole product to a level low enough to preserve the inherent quality of the fish and that has been maintained at this low temperature during transportation, storage, and distribution up to and including the time of final sale. The freezing process is carried out with appropriate equipment 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 and until the product temperature reaches -18°C (0°F) or lower at the thermal center after thermal stabilization.

(2) **Chilled/Frozen Crustaceans** include clean, whole, or peeled crustaceans (shrimp/prawn, crabs, and lobster) in either raw, chilled or frozen condition handled in accordance with good manufacturing practices.

(3) **Chilled/Frozen Cephalopods** include cleaned, whole or de-skinned cephalopods (squid, cuttlefish, and octopus) which are either raw or chilled or frozen condition and handled in accordance with good manufacturing practices.

(4) **Live Bivalve Molluscs** include Oysters, Clams, mussels, Scallops, and Abalone, which are alive immediately prior to consumption. The presentation includes the shell. Live bivalve mollusks are harvested alive from a harvesting area either approved for direct human consumption or classified to permit harvesting for an approved method of purification, like relaying or depuration, prior to human consumption. Relaying and depuration must be subject to appropriate controls implemented by the official agency with jurisdiction.

(5) **Chilled/Frozen Bivalves** include clean, whole, or shucked bivalves, which live either in chilled or frozen condition and are handled in accordance with good manufacturing practices. This product category includes filter-feeding aquatic animals such as oysters, mussels, clams, cockles, and scallops.

(6) **Frozen cooked Crustaceans, or Frozen heat-shucked Mollusca** means clean, whole, or peeled crustaceans, which are cooked at a defined temperature and time and subsequently frozen. Frozen heat-shucked mollusca includes bivalves where meat is removed from the shell by subjecting the animals to mild heat before shucking to relax the adductor muscle and subsequently frozen.

(7) **Dried or Salted and Dried fishery Products** are products prepared from fresh or wholesome finfish or shellfish after drying with or without the addition of salt. The fish shall be bled, gutted, beheaded, split, or filleted, and washed before salting and drying. Salt used to produce salted fish shall be clean, free from foreign matter, and has no visible signs of contamination with dirt, oil, bilge, or other extraneous materials.

(8) **Thermally Processed Fishery Products** are the product obtained by application of heat or temperature for sufficient time to achieve commercial sterility in hermetically sealed containers.

(9) **Fermented Fishery Products** include any fish product that has undergone degradative changes through enzymatic or microbiological activity either in the presence or absence of salt. Non-traditional products manufactured by accelerated fermentation, acid ensilage, and chemical hydrolysis also belong to this category.

(10) **Smoked Fishery Products** means fish or fishery products subjected to a treatment process with smoke generated from smouldering wood or plant materials. Here the product category refers to hot smoked fish where fish is smoked at an appropriate combination of temperature and time sufficient to cause the complete coagulation of the proteins in the fish flesh.



(11) **Accelerated Freeze dried Fishery Products** means fish, shrimp, or any fishery product subjected to rapid freezing, followed by drying under a high vacuum so as to remove the water by sublimation to a final moisture content of less than two percent.

(12) **Fish Mince/Surimi and analogues** mean comminuted, mechanically removed meat separated from and essentially free from bones, viscera, and skin. Surimi is the stabilized myofibrillar protein obtained from mechanically deboned fish flesh that is washed with water and blended with cryoprotectants. Surimi analogues are a variety of imitation products produced from surimi with the addition of ingredients and flavor.

(13) **Fish Pickle** means an oily, semi-solid product with spices and an acidic taste obtained from the maturation of partially fried fish with vinegar. It is produced by frying edible portions of fish, shrimp, or mollusk, followed by partial cooking with spices, salt, and oil and maturing for 1-3 days with added organic acids. The product is intended for direct human consumption as a seasoning or condiment for food.

(14) **Battered and Breaded Fishery Products** include fish portions, fillets, or mince coated with batter and/or breading. Batter means liquid preparation from ground cereals, spices, salt, sugar, and other coating ingredients and/or additives: the typical non-leavened batter and leavened batter. Breading means dry breadcrumbs or other dry preparations, mainly from cereals with colorants and other ingredients used for the final coating of fishery products.

(15) **Convenience Fishery Products** are tertiary food products made of fish, which are in ready-to-eat form and also include snack-based items prepared from fish and fishery products meant for direct human consumption such as extruded fishery products, fried items, namely fish wafers, crackers, fish cutlets, fish burgers and other such products. These products can be consumed directly after minimal handling and processing. This category includes Sous-vide cooked products, surimi-based products cooked (in-pack), pasteurized crab meat, and pasteurized mollusks distributed as refrigerated but meant for direct human consumption with minimal or no cooking.

(16) **Powdered Fish based Products** include products prepared from finfish/shellfish or parts thereof, with or without other edible ingredients in powdered form, suitable for human consumption. These may be consumed directly or as supplements and after hydration, and this category includes powdered and dried fish products generally used as ingredients in food preparations, such as fish soup powder, fish chutney powder, ready-to-use fish mix, and such food.

Schedule 7

Milk and Milk products

Sl. No	Name of food/ Commodity	Type of Contaminant	Name of Microbiological Contaminant	Sampling plan		Limits	
				n	c	m	M
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Pasteurized Milk, Boiled Milk, Flavored Milk	Process Hygiene Criteria	Aerobic Colony Count (cfu/ml)	5	3	3×10^4	5×10^4
			Coliform Count (cfu/ml)	5	0	<10	NA

Sl. No	Name of food/ Commodity	Type of Contaminant	Name of Microbiological Contaminant	Sampling plan		Limits	
				n	c	m	M
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Food Safety Criteria	<i>Salmonella</i> /25ml	5	0	Absent	NA
			<i>Listeria monocytogenes</i> /25ml	5	0	Absent	NA
			<i>E. coli</i> /g	5	0	Absent	NA
2	Pasteurized Cream	Process Hygiene Criteria	Aerobic Colony Count (cfu/g)	5	3	5×10^4	7.5×10^4
			Coliform Count (cfu/g)	5	0	<10	NA
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	NA
			<i>Listeria monocytogenes</i> /25g	5	0	Absent	NA
			<i>E. coli</i> /g	5	0	Absent	NA
3	Sterilized Milk, UHT Milk, Evaporated Milk, Milk added dairy based drink		Test for Commercial Sterility	Shall comply Commercial Sterility Test			
4	Sterilized Cream, UHT Cream		Test for Commercial Sterility	Shall comply Commercial Sterility Test			
5	Sweetened Condensed Milk	Process Hygiene Criteria	Aerobic Colony Count (cfu/g)	5	3	5×10^2	1×10^3
			Coliform Count (cfu/g)	5	0	<10	NA
			<i>Staphylococcus aureus</i> (cfu/g)	5	0	<10	NA
			Yeast & Mould Count (cfu/g)	5	0	<10	NA
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	NA
6	Pasteurized Butter	Process Hygiene Criteria	Aerobic Colony Count (cfu/g)	5	3	2.5×10^4	5×10^4
			Coliform Count (cfu/g)	5	2	1×10	2×10
			<i>Staphylococcus aureus</i> (cfu/g)	5	2	1×10	5×10
			Yeast & Mould Count (cfu/g)	5	2	2×10	5×10
			<i>Escherichia coli</i> /g	5	0	Absent	NA
		Food Safety	<i>Salmonella</i> /25g	5	0	Absent	NA

Sl. No	Name of food/ Commodity	Type of Contaminant	Name of Microbiological Contaminant	Sampling plan		Limits	
				n	c	m	M
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Criteria	<i>Listeria monocytogenes</i> /g	5	0	Absent	NA
7	Milk Powder, SMP, PSMP, Dairy Whitener, Cream Powder, Lactose, Ice Cream Mix Powder, Whey Powder, Butter Milk Powder, Casein Powder	Process Hygiene Criteria	Aerobic Colony Count (cfu/g)	5	2	3×10^4	5×10^4
			Coliform Count (cfu/g)	5	2	1×10	5×10
			<i>Staphylococcus aureus</i> (cfu/g)	5	2	1×10	1×10^2
			Yeast & Mould Count (cfu/g)	5	0	5×10	NA
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	NA
			<i>Listeria monocytogenes</i> /g	5	0	Absent	NA
			<i>Bacillus cereus</i> (cfu/g)	5	3	5×10^2	10^3
			Sulphite Reducing Clostridia /g	5	3	5×10	1×10^2
8	Infant Milk Food, Infant Formulae, Infant Milk Substitute	Process Hygiene Criteria	Aerobic Colony Count (cfu/g)	5	2	5×10^2	5×10^3
			<i>Staphylococcus aureus</i> (cfu/g)	5	0	<10	NA
			Yeast & Mould Count (cfu/g)	5	0	<10	NA
		Food Safety Criteria	<i>Salmonella</i> /25g	60	0	Absent	NA
			<i>Listeria monocytogenes</i> /25g	10	0	Absent	NA
			<i>Bacillus cereus</i> (cfu/g)	5	2	1×10^2	5×10^2
			Sulphite Reducing Clostridia (cfu/g)	5	2	1×10	10^2
			<i>Enterobacter sakazakii</i> / 10g	30	0	Absent	NA
9	Follow-up Formula, Cereal based Complimentary Food	Process Hygiene Criteria	Aerobic Colony Count (cfu/g)	5	2	1×10^3	1×10^4
			Coliform Count (cfu/g)	10	0	<10	NA
			<i>Staphylococcus aureus</i> (cfu/g)	5	0	<10	NA
			Yeast & Mould Count (cfu/g)	5	0	<10	NA
			<i>Escherichia coli</i> /g	10	0	Absent	NA
		Food Safety Criteria	<i>Salmonella</i> /25g	15	0	Absent	NA
			<i>Listeria monocytogenes</i> /25g	10	0	Absent	NA

Sl. No	Name of food/ Commodity	Type of Contaminant	Name of Microbiological Contaminant	Sampling plan		Limits	
				n	c	m	M
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			<i>Bacillus cereus</i> (cfu/g)	5	2	1x10 ²	5x10 ²
			Sulphite Reducing Clostridia(cfu/g)	5	2	1x10	1x10 ²
10	Ice Cream, Frozen Dessert, Milk Lolly, Ice Candy	Process Hygiene Criteria	Aerobic Colony Count (cfu/g)	5	3	1x10 ⁵	2x10 ⁵
			Coliform Count (cfu/g) (OR)	5	3	1x10	1x10 ²
			<i>Staphylococcus aureus</i> (cfu/g)	5	2	1x10	1x10 ²
			<i>Escherichia coli</i> /g	5	0	Absent	NA
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	NA
			<i>Listeria monocytogenes</i> /g	5	0	Absent	NA
11	Processed Cheese, Cheese Spread	Process Hygiene Criteria	Aerobic Colony Count (cfu/g)	5	2	2.5x10 ⁴	5x10 ⁴
			Coliform Count (cfu/g)	5	0	<10	NA
			<i>Staphylococcus aureus</i> (cfu/g)	5	0	<10	NA
			<i>Escherichia coli</i> /g	5	0	Absent	NA
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	NA
			<i>Listeria monocytogenes</i> /25g	5	0	Absent	NA
12	All other Cheeses (fresh, cheddar, cottage, soft, semi soft)	Process Hygiene Criteria	Coliform Count (cfu/g)	5	3	1x10 ²	5x10 ²
			<i>Staphylococcus aureus</i> (cfu/g)	5	3	1x10	1x10 ²
			Yeast and Mould Count (cfu/g)	5	3	1x10 ²	5x10 ²
			<i>Escherichia coli</i> /g	5	0	Absent	NA
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	NA
			<i>Listeria monocytogenes</i> /g	5	0	Absent	NA
13	Fermented Milk Products;	Process Hygiene	Coliform Count (cfu/g)	5	2	1x10	1x10 ²

Sl. No	Name of food/ Commodity	Type of Contaminant	Name of Microbiological Contaminant	Sampling plan		Limits	
				n	c	m	M
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Criteria	<i>Staphylococcus aureus</i> (cfu/g)	5	2	1x10	1x10 ²
			Yeast and Mould Count (cfu/g)	5	2	5x10	1x10 ²
			<i>Escherichia coli</i> /g	5	0	Absent	NA
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	NA
			<i>Listeria monocytogenes</i> /g	5	0	Absent	NA
14	Paneer, Channa, Channa based Sweets	Process Hygiene Criteria	Aerobic Colony Count (cfu/g)	5	3	1.5x10 ⁵	3.5x10 ⁵
			Coliform Count (cfu/g)	5	3	1x10	1x10 ²
			<i>Staphylococcus aureus</i> (cfu/g)	5	3	1x10	1x10 ²
			Yeast and Mould Count (cfu/g)	5	3	5x10	1.5x10 ²
			<i>Escherichia coli</i> /g	5	0	Absent	NA
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	NA
			<i>Listeria monocytogenes</i> /g	5	0	Absent	NA
15	Khoa, Khoa based Sweets	Process Hygiene Criteria	Aerobic Colony Count (cfu/g)	5	3	2.5x10 ⁴	7.5x10 ⁴
			Coliform Count (cfu/g)	5	2	5x10	1x10 ²
			<i>Staphylococcus aureus</i> (cfu/g)	5	3	1x10	1x10 ²
			Yeast and Mould Count (cfu/g)	5	3	1x10	5x10
			<i>Escherichia coli</i> /g	5	0	Absent	NA
		Food Safety Criteria	<i>Salmonella</i> /25g	5	0	Absent	NA
			<i>Listeria monocytogenes</i> /g	5	0	Absent	NA
16	Ghee/ Melted Butter	Process Hygiene Criteria	Aerobic Colony Count (cfu/g)	5	3	2.5x10 ⁴	5x10 ⁴
			Total Coliform (cfu/g)	5	3	1x10	2x10
			<i>Staphylococcus aureus</i> (cfu/g)	5	2	2x10	5x10
			Yeast and mold (cfu/g)	5	3	2x10	5x10
			<i>Escherichia coli</i> (cfu/g)	5	0	Absent	NA
		Safety Indicator organism	<i>Salmonella</i> /25g	5	0	Absent	NA

Schedule 8

Potable Water

Sl. No.	Food Category	Microorganisms	Limit	Analytical Reference Method
(1)	(2)	(3)	(4)	(5)
1	Drinking/Bottled water	Aerobic colony count (cfu/g)	100 cfu/ml	BDS 1240:2001
		Total coliforms	Absent in 100ml	9222B Membrane filtration, Standard method for the examination of water & waste water (Ed 22 nd) BDS 1240:2001
		Fecal coliform	Absent in 100 ml	9222D Membrane filtration, standard method for the examination of water & waste water (Ed 22 nd)
		<i>E. coli</i>	Absent in 100 ml	9260F Membrane filtration, standard method for the examination of water & waste water (Ed 22 nd)

Schedule 9

Reference Test Methods

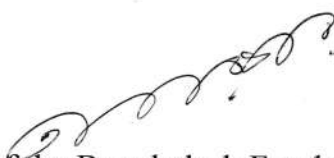
S.No	Parameter	Reference Test Method	
1	Aerobic Plate Count	BDS ISO 4833-1:2020	Microbiology of food chain – Horizontal method for the enumeration of microorganism – Part 1: Colony count at 30°C by the pour plate technique
		BDS ISO 4833-2:2020	Microbiology of food chain – Horizontal method for the enumeration of microorganism – Part 2: Colony count at 30°C by the surface plating technique
2	Yeast and Mould Count	BDS ISO 6611:2009	Milk and milk products – Enumeration of colony-forming units of yeasts and/or moulds – Colony-count technique at 25 °C
		BDS ISO 21527-	Microbiology of food and animal feeding stuffs –



		1:2019	Horizontal method for the enumeration of yeasts and moulds- Part 1: Colony count technique in products with water activity greater than 0.95.
		BDS ISO 21527-2:2020	Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of yeasts and moulds — Part 2: Colony count technique in products with water activity less than or equal to 0.95
3	<i>Staphylococcus aureus</i> and <i>Faecal streptococci</i>	BDS ISO 6888-1:2020	Microbiology of food and animal chain – Horizontal method for the enumeration of coagulase positive staphylococci (<i>Staphylococcus aureus</i> and other species) – Part 1: Technique using Baird-Parker agar medium
		BDS ISO 6888-2:2009	Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of coagulase positive staphylococci (<i>Staphylococcus aureus</i> and other species)-part-2 Technique using rabbit plasma fibrinogen agar medium
		BDS ISO 6888-1:2020	Microbiology of food and animal chain – Horizontal method for the enumeration of coagulase positive staphylococci (<i>Staphylococcus aureus</i> and other species) – Part 1: Technique using Baird-Parker agar medium
4	<i>Escherichia coli</i>	BDS ISO 7251:2009	Microbiology of food and animal feeding stuffs - Horizontal method for the detection and enumeration of Presumptive <i>Escherichia coli</i> - Most Probable Number Technique
		BDS ISO 11866-1:2009	Milk and Milk products – Enumeration of presumptive <i>Escherichia coli</i> – part -1: Most probable number technique using 4-methylumbelliferyl – β -D-glucuronide (MUG)
		BDS ISO 11866-2:2009	Milk and Milk products – Enumeration of presumptive <i>Escherichia coli</i> – part-2: Colony count technique at 44 °C using membranes
		BDS ISO 16649-3:2019	Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of β glucuronidase-positive <i>Escherichia coli</i> – Part-3: Most probable number technique using 5-bromo-4-chloro-3- indolyl- β -D glucuronide
		BDS ISO 9308-1:2017	Water quality — Enumeration of <i>Escherichia coli</i> and coliform bacteria —Part 1: Membrane filtration method for waters with low bacterial background flora
		BDS ISO 9308-2:2017	Water quality — Enumeration of <i>Escherichia coli</i> and coliform bacteria — Part 2: Most probable number method
		BDS ISO 16649-1:2020	Microbiology of the food chain — Horizontal method for the enumeration of beta- glucuronidase-positive <i>Escherichia coli</i> — Part 1: Colony-count technique at 44 °C using membranes and 5-bromo-4-chloro-3-indolyl beta-D-glucuronide
		BDS ISO 16649-2:2020	Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of β -glucuronidase- positive <i>Escherichia coli</i> — Part 2: Colony-count technique at 44°C using 5-bromo-4-

			chloro-3-indolyl β -D-glucuronide
		BDS ISO 16654:2020	Microbiology of food and animal feeding stuffs – Horizontal method for the detection of <i>Escherichia coli</i> O157
		ISO/TS 13136:2012	Microbiology of food and animal feed — Real-time polymerase chain reaction (PCR)-based method for the detection of food-borne pathogens — Horizontal method for the detection of Shiga toxin-producing <i>Escherichia coli</i> (STEC) and the determination of O157, O111, O26, O103 and O145 serogroups
5	<i>Salmonella</i> spp.	BDS ISO 19250:2019	Water quality – Detection of <i>Salmonella</i> spp.
		BDS ISO 6579-1:2020	Microbiology of the food chain - Horizontal method for the detection, enumeration and serotyping of <i>Salmonella</i> – Part 1: Detection of <i>Salmonella</i> spp
		BDS ISO TS 6579-2:2020	Microbiology of food and animal feed – Horizontal method for the detection, enumeration and serotyping of <i>Salmonella</i> – Part 2: Enumeration by a miniaturized most probable number technique
6	<i>Listeria monocytogenes</i>	BDS ISO 11290-1:2019	Microbiology of the food chain – Horizontal method for the detection and enumeration of <i>Listeria monocytogenes</i> and of <i>Listeria</i> spp. – Part 1: Detection method
		BDS ISO 11290-2:2019	Microbiology of the food chain – Horizontal method for the detection and enumeration of <i>Listeria monocytogenes</i> and of <i>Listeria</i> spp. – Part 2: Enumeration method
7	<i>Campylobacter</i> spp	ISO 10272-1	Microbiology of Food and Animal Feeding Stuff – Horizontal Method for the Detection and Enumeration of <i>Campylobacter</i> spp- Part 1: Detection Method-
		ISO 10272-2	Microbiology of food and animal feeding stuffs -- Horizontal method for the detection and enumeration of <i>Campylobacter</i> spp. -- Part 2: Colony-count technique
8	<i>Sulphite-Reducing Bacteria</i>	ISO 15213	Microbiology of food and animal feeding stuffs -- Horizontal method for the enumeration of <i>Sulphite-Reducing Bacteria</i> growing under anaerobic conditions
9	<i>Clostridium botulinum</i>	ISO-TS 17919	Microbiology of the food chain Polymerase Chain Reaction (PCR) for the detection of foodborne pathogens –Detection of botulinum type A, B, E & F-neurotoxin Producing clostridia.
10	<i>Vibrio</i> spp	BDS ISO 21872-1:2019	Microbiology of the food chain – Horizontal method for the detection of <i>Vibrio</i> spp. – Part 1:Detection of potentially enteropathogenic <i>Vibrio parahaemolyticus</i> , <i>Vibrio cholerae</i> and <i>Vibrio vulnificus</i>
		ISO/TS 21872-2:2020	Microbiology of the food chain — Horizontal method for the determination of <i>Vibrio</i> spp. — Part 2: Enumeration of total and potentially enteropathogenic <i>Vibrio parahaemolyticus</i> in seafood using nucleic acid hybridization
11	<i>Enterobacteriaceae</i>	ISO 21528-2	Microbiology of Food and Animal feeding stuff – Horizontal methods for the detection and enumeration of <i>Enterobacteriaceae</i> - Part 2: Colony- count method
12	Coliforms	BDS ISO 4831:2009	Microbiology of food and animal feeding stuffs -

			Horizontal method for the detection of and enumeration of coliforms - Most probable number technique
		BDS ISO 4832:2009	Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of coliforms colony count technique
		BDS ISO 9308-1:2017	Water quality — Enumeration of <i>Escherichia coli</i> and coliform bacteria —Part 1: Membrane filtration method for waters with low bacterial background flora
		BDS ISO 9308-2:2017	Water quality — Enumeration of <i>Escherichia coli</i> and coliform bacteria — Part 2: Most probable number method
13	<i>Bacillus cereus</i>	ISO 7932	Microbiology of food and animal feeding stuffs- - Horizontal method for the enumeration of presumptive <i>Bacillus cereus</i> -Colony- count technique at 30°C.
		ISO 21871:2006	Microbiology of food and animal feeding stuffs — Horizontal method for the determination of low numbers of presumptive <i>Bacillus cereus</i> — Most probable number technique and detection method
	Hemolysin-producing <i>B. cereus</i>		FDA Bacteriological Analytical Manual, 8th Edition, Revision A, 1998. Chapter 14.
14	<i>Enterobacter sakazakii</i>	ISO 22964:2017	Microbiology of the food chain — Horizontal method for the detection of <i>Cronobacter spp.</i>
15	Test for commercial sterility	IS 4238:1967	Specification for sterilized milk (appendix C or appendix D)
		BDS 1805:2008 (Revise in 2022)x	Specification for Ultra High Temperature Milk and Ultra High Temperature Homogenized Milk
		IS 4884:1968	Specification for sterilized cream (appendix A)


 By order of the Bangladesh Food Safety Authority
 Md. Abdul Kayowm Sarker
 Chairman (Additional Secretary)