Republic of the Philippines
Department of Health
FOOD AND DRUG ADMINISTRATION

FDA CIRCULAR No. 2022-012

13 DEC 2022

SUBJECT : Guidelines on the Microbiological Requirements and Assessment of Certain Prepackaged Processed Food Products Repealing FDA Circular No. 2013-010 entitled "Revised Guidelines for the Assessment of Microbiological Quality of Processed Foods"

I. RATIONALE

Pursuant to Republic Act No. 9711 otherwise known as "The Food and Drug Administration Act of 2009", the FDA is mandated to "develop and issue policies, standards, regulations, and guidelines that would cover establishments, facilities and health products". Further, the Implementing Rules and Regulations of Republic Act No. 10611 otherwise known as the "Food Safety Act of 2013" states that the FDA shall be responsible for developing, adopting and/or amending/revising food safety standards and codes of practice for processed and prepackaged foods. This is aligned with the end goal of ensuring the safety and quality of processed food products available for the general public.

Large and small food companies introduce an estimated 15,000 new food products every year. Hence, there is a need to update existing food policies to keep up with innovations in processed food. FDA Circular No. 2013-010 or "Revised Guidelines for the Assessment of Microbiological Quality of Processed Foods" was implemented in 2013, and it was reviewed by the Common Services Laboratory (CSL) and Center for Food Regulation and Research (CFRR) of the FDA to consider the addition of new food categories and update the microbiological specifications of certain food products. The methods to be used for the enumeration or detection of specified microorganisms shall be those that have been adopted from locally and internationally established references as provided in Annex B.

This Circular is hereby issued to repeal FDA Circular No. 2013-010 entitled "Revised Guidelines for the Assessment of Microbiological Quality of Processed Foods" and to provide the updated guidelines on the microbiological requirements and assessment of certain prepackaged processed food products.

II. OBJECTIVES

The objectives of this Circular are the following:

A. To revise and update the guidance document in the assessment of microbiological quality of prepackaged processed food products.

B. To align the guidelines on the microbiological requirements and assessment of prepackaged processed food products with local and international standards.

III. SCOPE

This Circular covers imported and locally produced prepackaged processed food products under the jurisdiction of the FDA.

IV. DEFINITION OF TERMS

A. **Aerobic Plate Count (APC)** as a routine test provides an estimate of the total number of mesophilic aerobic bacteria in a sample without differentiating among the various types. This analysis can be used as a general index of the bacterial population, and to obtain the general information on the sanitary quality of products, manufacturing practices, raw materials, processing conditions, handling practices & shelf-life.

B. ***Bacillus cereus*** is an aerobic, sporulating, Gram-positive, motile, catalase positive bacterium that is commonly found in soil, on vegetables, and in many raw and processed foods. *B. cereus* food poisoning may occur when foods are prepared and held without adequate refrigeration for several hours before serving. Foods incriminated in past outbreaks include cooked meat and vegetables, boiled or fried rice, vanilla sauce, custards, soups, and raw vegetable sprouts.

C. ***Campylobacter*** are microaerophilic, non-sporulating, Gram-negative, motile bacteria. The species of greatest interest in foods is *C. jejuni*, and, to a lesser extent, *C. coli*. *C. jejuni* is not an environmental organism but rather is one that is associated with warm-blooded animals. A large percentage of all major meat animals has been shown to contain these organisms in their feces, with poultry being prominent

D. ***Clostridium perfringens*** is a strictly anaerobic, sporulating, Gram-positive, non-motile, catalase negative bacterium. Food poisoning due to *C. perfringens* may occur when foods such as meat or poultry are cooked and held without maintaining adequate temperature before serving. The presence of small numbers of *C. perfringens* is not uncommon in raw meats, poultry, dehydrated soups and sauces, raw vegetables, and spices.

E. **Coliforms** refer to a group of facultative anaerobic, Gram-negative, rod-shaped bacteria that ferments lactose to produce acid and gas within 48 h at 35°C. Its detection is used as an indicator of sanitary quality of water or as a general indicator of sanitary condition in the food-processing environment.

F. **Commercial sterility** means the absence of microorganisms capable of growing in the food at normal nonrefrigerated conditions at which the food is likely to be held during manufacture, distribution and storage.

G. ***Cronobacter* spp.** are facultative anaerobic, non-sporulating, Gram-negative, motile, catalase positive bacteria. They are opportunistic pathogens that have been linked with serious infections in infants.

H. ***Enterobacteriaceae*** is a family of gram-negative, non-spore forming bacteria that includes many bacteria that are found in human or animal intestinal tracts, as well as plants and the environment. The family includes a number of foodborne pathogens such as *Salmonella*, pathogenic *E. coli*, *Shigella* and *Cronobacter*, as well as non-pathogenic bacteria.

I. ***Escherichia coli*** is a facultative anaerobic, non-sporulating, Gram-negative bacterium, which belongs to the family *Enterobacteriaceae*. It is widely distributed in the intestine of humans and warm-blooded animals and is used to indicate recent fecal contamination or unsanitary processing.

J. **Fecal *streptococci*** are coccoid-shaped, chain forming, Gram positive bacteria of intestinal origin. The normal habitat of this microorganism is the intestinal tract of human beings and warm-blooded animals and their presence in water indicates fecal contamination.

K. **Heterotrophic Plate Count (HPC)** – formerly known as standard plate count, is a procedure for estimating the number of live, culturable heterotrophic (use organic compounds as energy sources in their metabolism) bacteria in water.

L. **High-risk population** - certain group of people more likely to get sick and to have a more serious illness. These groups are composed of adults aged 65 and older, children younger than 5 years, people with weakened immune systems and pregnant women.

M. **Lactic acid bacteria** are Gram-positive, acid tolerant, rods or cocci that usually produce lactic acid as the major metabolic end product of carbohydrate fermentation.

N. ***Listeria*** is a genus of facultative anaerobic, non-sporulating, Gram-positive, motile or non-motile bacteria. Among the six species under it, only *L. monocytogenes* is

commonly associated with human listeriosis. The psychrotrophic nature of *L. monocytogenes* is a problem for the food industry. Post-process re-contamination is one of the most common causes of *L. monocytogenes* in the final product. Foods that have been associated with the transmission of *L. monocytogenes* include raw milk, inadequately pasteurized milk, chocolate milk, soft fresh cheeses, sorbets, raw vegetables, bovine and poultry meats, meat products (sausages raw fermented sausages, hot dog type sausages), raw and smoked fish and seafood.

O. **Lot** refers to a set of units of a product which has been produced and/or manufactured and/or packaged under similar conditions. A lot can consist of several batches.

P. **Mesophilic bacteria** – microorganisms that grows at moderate temperatures between 20°C and 45°C and with an optimum temperature in the range of 30-39°C.

Q. **Osmophilic yeasts** – yeast that are capable of growing in high concentrations of organic solutes, particularly in sugars. Osmophilic yeasts are usually the cause of spoilage of high-sugar foods, including jams, honey, concentrated fruit juices, chocolate candy with soft centers etc.

R. **Process hygiene indicators** – criteria applied to the finished product (powder form) or any other previous point that provides the information for the purpose of verification. The criteria is intended to be used by the manufacturer as a means of on-going assessment of their hygiene programs.

S. ***Pseudomonas aeruginosa*** – gram negative, non-spore forming rod which is oxidase and catalase positive. It is an opportunistic pathogen of man that is capable of growth in water at very low nutrient concentrations.

T. ***Salmonella*** is a genus of facultative anaerobic, non-sporulating, Gram-negative bacterium, which also belongs to the family Enterobacteriaceae. Members of this genus are infectious pathogens capable of initiating clinical symptoms in humans. It is one of four key global causes of diarrheal diseases. The disease is generally contracted through the consumption of contaminated foods of animal origin (meats, poultry, eggs, milk and dairy products, fish, shrimp) but fresh produce (fruits and vegetables such tomatoes, peppers and cantaloupes) and low-moisture foods (such as spices) also have been implicated in transmission.

U. ***Staphylococcus aureus*** is a Gram-positive, non-sporulating, non-motile, catalase-positive, and coagulase-positive bacterium. The production of coagulase is considered as an indication of pathogenicity among the species of Staphylococcus. S. aureus is predominantly associated with the skin, skin glands and mucous membranes of warm-

blooded animals. Thus, the presence of this bacterium or its enterotoxins in processed foods or on food processing equipment is generally an indication of poor sanitation.

V. **Thermophilic spores** – spores from thermophilic bacteria (thermophiles) or bacteria that grow optimally at 55°C but can grow up to 65°C.

W. ***Vibrio parahaemolyticus*** is a facultative anaerobic, Gram-negative, non-sporulating, motile, halophilic bacterium. *V. parahaemolyticus* is a curve-shaped rod naturally present in coastal and estuarine waters. It is halophilic (salt-loving) and is lysed almost immediately in freshwater. It is a marine microorganism native in estuarine waters throughout the world. Its pathogenic strains cause disease worldwide, although most common in Asia and the United States. Molluscan shellfish, such as oysters, clams, and mussels raw or undercooked are the most common foods associated with *V. parahaemolyticus* infection.

X. **Water activity (A_w)** is the quotient of the water vapor pressure of the substance divided by the vapor pressure of pure water at the same temperature. It is an indication of the amount of free water in food that supports microbial growth, and participates in and supports chemical and enzymatic reactions and spoilage processes.

Y. **Yeast-like fungi** also known as dimorphic fungi corresponds to fungi that can change from yeast form to mycelial form in response to changes in environmental factors. May be basidiomycetes such as *Cryptococcus neoformans* or ascomycetes such as *Candida albicans* etc.

V. GUIDELINES

A. All food business operators and market authorization holders shall adhere to these guidelines for the microbiological specifications of prepackaged processed food products. Compliance of the finished product to Annex A of this Circular ensures the safety and quality of the processed food product.

B. The guidelines shall be the basis for evaluation of microbiological properties of food products during application for product registration. The details on how to apply for and obtain a Certificate of Product Registration (CPR) are stated in FDA Circular No. 2020-033 or *"Procedure for the Use of the Modified Electronic Registration System for Raw Materials and Prepackaged Processed Food Products Repealing FDA Circular No. 2016-014 "Procedure for the Use of Electronic Registration System for Prepackaged Processed Food Products"* or its future amendments.

C. The guidelines contain reference criteria as prescribed in Tables 1-14. The tables contain descriptions of the food group to which specific criteria apply, the required test(s) for microorganisms considered, and the number of samples that should conform

to the limits. New food categories such as pre-packaged tubed and cubed ice, ethnic milk-based confectioneries, and instant noodles, among others, have been added.

VI. PENALTY CLAUSE

Any food product that are non-compliant to, or in violation of, the reference criteria shall be deemed not in conformity with the applicable food quality or safety standard or either adulterated, misbranded, mislabelled or both, as the case may be. Accordingly, the authorized sanctions shall be imposed following Republic Act No. 3720, as amended by Executive Order No. 175 and Republic Act No. 9711 or Republic Act No. 10611, as far as applicable, and following the proceedings under Book III of the Implementing Rules and Regulations of R.A. No. 9711.

VII. SEPARABILITY CLAUSE

If any provision of this Circular is declared unauthorized or rendered invalid by any court of law, the provisions not affected thereby shall remain valid and effective.

VIII. REPEALING CLAUSE

FDA Circular No. 2013-010 "Revised Guidelines for the Assessment of Microbiological Quality of Processed Foods" and other issuances inconsistent or contrary to this Circular are hereby repealed.

IX. EFFECTIVITY

This Circular shall take effect fifteen (15) days after its publication in the Official Gazette or in any newspaper of general circulation and upon filing with the University of the Philippines Law Center Office of the National Administrative Register.

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Director General

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FOOD CATEGORIES WITH CORRESPONDING REFERENCE CRITERIA

TABLE 1. MILK AND DAIRY PRODUCTS

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria		n	c	m	M
Milk Powders (e.g. whole, nonfat or filled milk, buttermilk, whey & whey protein concentrate) (intended for children more than 36 months of age and adults)	*Salmonella*/25g,	normal routine	10	0	Not detected/ Absence	
		for high-risk population	30	0	Not detected/ Absence	
Sweetened Condensed Milk/ Creamer	[1]Coliforms, CFU/g		5	1	10	10^2
	Yeast and Mold Count, CFU/g		5	1	10	10^2
	Aerobic Plate Count, CFU/g		5	1	10^3	10^4
Liquid Milk (evaporated or ready to drink) **& Cream** (UHT/sterilized)	Commercial Sterility		6	0	Commercially sterile	
Pasteurized Milk	[1]Coliforms, CFU/mL		5	1	10^2	10^3
	Salmonella/25mL		5	0	Not detected/ Absence	
	Listeria monocytogenes/25 mL		5	0	Not detected/ Absence	
	Aerobic Plate Count, CFU/mL	plain	5	1	$5x10^4$	10^5
		flavored	5	2	$5x10^4$	10^6
Pasteurized Cream	[1]Coliforms, CFU/g		5	1	10^2	10^3
	Salmonella/25g		5	0	Not detected/ Absence	
	Listeria monocytogenes/25g		5	0	Not detected/ Absence	
	Aerobic Plate Count, CFU/g		5	1	$5x10^4$	10^5
Yogurt and other fermented milk	*S. aureus*, CFU/mL		5	2	10	10^2
	[1]Coliforms, CFU/mL		5	2	10	10^2
	Salmonella/25mL		5	0	Not detected/ Absence	
	[2]Lactic Acid Bacteria, CFU/mL (required minimum level: **$\geq 10^6$ CFU/mL**)					

[1] If positive for Coliform, *E. coli* must be tested and should be not detected.
[2] Not applicable for pasteurized fermented milks

Legend: n - Number of sample units selected from a lot of food to be examined
c - Maximum allowable number of marginally acceptable samples
m- Acceptable level of microorganisms determined by a specified method; the values are generally based on levels that are achievable under GMP
M - Level which when exceeded in one or more samples would cause the lot to be rejected as this indicates potential health hazard or imminent spoilage

TABLE 1. MILK AND DAIRY PRODUCTS Cont.

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria		n	c	m	M
Heat treated fermented milks (sterilized, UHT)	Commercial sterility		6	0	Commercially sterile	
Processed Cheese Spread	[1]Coliforms, CFU/g		5	1	10	10^2
	S. aureus, CFU/g		5	1	10	10^2
	Aerobic Plate Count, CFU/g		5	2	10^4	$5x10^4$
Soft cheese (from pasteurized milk)	Enterobacteriaceae, CFU/g		5	2	10^2	10^3
	E.coli, CFU/g		5	1	<10	10^2
	Salmonella/ 25g		5	0	Not detected/ Absence	
	Listeria monocytogenes/ 25g		5	0	Not detected/ Absence	
	S. aureus, CFU/g		5	1	10^2	10^3
Hard and semi-hard cheese	Enterobacteriaceae, CFU/g		5	2	10^2	10^3
	E.coli, CFU/g		5	0	<10	100
	Salmonella/ 25g		5	0	Not detected/ Absence	
	Listeria monocytogenes/ 25g		5	0	Not detected/ Absence	
	S. aureus, CFU/g		5	1	10^2	10^3
All Raw Milk Cheese; Raw Milk Un-ripened cheese w/moisture>50%, pH > 5.0	*Campylobacter*/25g		5	0	0	-
	Listeria monocytogenes/25g		5	0	Not detected/ Absence	
	Salmonella/25g		5	0	Not detected/ Absence	
	S. aureus, CFU/g		5	2	10^2	10^3
Cream Cheese products	Aerobic Plate Count, CFU/g		5	2	10^4	$2.5x10^4$
	Coliforms	CFU/g	5	0	<10	-
		MPN/g	5	0	<3.0	-
		/25g	5	0	Not detected/ Absence	
	E.coli	CFU/g	5	0	<10	-
		MPN/g	5	0	<3.0	-
		/25g	5	0	Not detected/ Absence	
	Yeast and Molds, CFU/g		5	0	10	-

[1] If positive for Coliform, *E. coli* must be tested and should be not detected.

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TABLE 2. FATS, OILS AND FAT EMULSIONS

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria		n	c	m	M
Butter (whipped, pasteurized)	Yeast and Mold Count, CFU/g		5	1	20	10^2
	Coliforms, CFU/g		5	1	10	10^2
	S. aureus, CFU/g		5	2	10^2	10^4
	Aerobic Plate Count, CFU/g		5	1	5×10^4	10^5
Butter made from unpasteurized milk or unpasteurized milk products	Coliforms, CFU/g		5	1	10	10^2
	E.coli, MPN/g		5	1	3	9
	S. aureus, CFU/g		5	1	10	10^2
	Salmonella/25g		5	0	Not detected/ Absence	
	Listeria monocytogenes/25g		5	0	Not detected/ Absence	
	Aerobic Plate Count, CFU/g		5	0	5×10^5	-
Margarine	*S. aureus*, CFU/g		5	0	10	-
	Faecal Coliform, MPN/g		5	2	50	5×10^2
	Listeria monocytogenes/25g		5	0	Not detected/ Absence	
	Salmonella/25g		5	0	Not detected/ Absence	
	Aerobic Plate Count, CFU/g		5	2	2.5×10^4	2.5×10^5
	Yeast and Mold Count, CFU/g		5	2	50	5×10^2
Virgin coconut oil	Aerobic Plate Count, CFU/mL		5	0	10^2	-
	Coliform	MPN/mL	5	0	-	<3.0
		CFU/mL	5	0	-	<10
	Yeast and Mold Count, CFU/mL		5	0	10	-
	Salmonella spp. /25mL		5	0	0	-
	E.coli	MPN/mL	5	0	<3	-
		CFU/mL	5	0	<10	-

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TABLE 3. EDIBLE ICES, INCLUDING SHERBET AND SORBET

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria		n	c	m	M
Ice Cream & Sherbet (plain and flavored)	[1]Coliforms, CFU/g		5	1	10	10^3
	Listeria monocytogenes/25g		5	0	Not detected/ Absence	
	Salmonella/25g		5	0	Not detected/ Absence	
	Aerobic Plate Count, CFU/g		5	2	10^4	5×10^4
	S. aureus, CFU/g		5	1	10	10^2
Ice Cream with added ingredients (nuts, fruits, cocoa etc.)	[1]Coliforms, CFU/g		5	2	10	10^3
	S. aureus, CFU/g		5	1	10	10^2
	Salmonella/25g		5	0	Not detected/ Absence	
	Aerobic Plate Count, CFU/g		5	2	5×10^4	2×10^5
	Listeria monocytogenes/25g		5	0	Not detected/ Absence	
Flavored Ice (e.g. Ice candy)	Aerobic Plate Count, CFU/g		5	2	10^2	10^4
	Coliforms	MPN/g	5	0	< 3.0	-
		CFU/g	5	0	<10	
		/25g	5	0	Not detected/ Absence	
	Yeast and Mold Count, CFU/g		5	0	10^2	-
	Salmonella/25g		5	0	Not detected/ Absence	
Ice Products (pre-packaged tubed and cubed ice)	Coliforms	MPN/100mL	5	0	<1.1	-
		/100mL	5	0	Not detected/ Absence	
	Thermo-tolerant *Coliform/ E. coli,*	MPN/100mL	5	0	<1.1	-
		/100mL	5	0	Not detected/ Absence	
	Heterotrophic Plate Count, CFU/mL		5	0	<500	-

[1] If positive for Coliform, *E. coli* must be tested and should be not detected.

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M - Level which when exceeded in one or more samples would cause the lot to be rejected as this indicates potential health hazard or imminent spoilage

TABLE 4. CONFECTIONERIES

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria		n	c	m	M
Cocoa Powder	Molds, CFU/g		5	2	10^2	10^4
	Salmonella/25g		10	0	Not detected/ Absence	
	Coliforms	MPN/g	5	2	<1.8	10^2
		CFU/g	5	2	<10	10^2
	Aerobic Plate Count, CFU/g		5	2	10^4	10^6
Chocolate Products	Molds, CFU/g		5	2	10^2	10^4
	Salmonella/25g		10	0	Not detected/ Absence	
	Coliforms	MPN/g	5	2	<1.8	10^2
		CFU/g	5	2	<10	10^2
	Aerobic Plate Count, CFU/g		5	2	10^4	10^6
Chocolate Confectioneries (chocolate bars, blocks, bonbons)	Molds, CFU/g		5	2	10^2	10^3
	Osmophilic yeast, CFU/g		5	2	<10	10^2
	Salmonella/25g		10	0	Not detected/ Absence	
	Coliforms	MPN/g	5	2	<1.8	10^2
		CFU/g	5	2	<10	10^2
	Aerobic Plate Count, CFU/g		5	2	10^3	10^6
Sugar Confectioneries (Hard and soft candies, toffees, caramel, fondants, creams, nougats and pastes)	Molds, CFU/g		5	2	<10	10^2
	Osmophilic yeast, CFU/g		5	2	<10	10^2
	Coliforms	MPN/g	5	2	<1.8	10^2
		CFU/g	5	2	<10	10^2
	Aerobic Plate Count, CFU/g		5	2	10^3	10^4
Ethnic Milk-based Confectioneries (Pastillas and Yema)	Yeast and Mold Count, CFU/g		5	2	10^2	10^4
	Salmonella/25g		10	0	Not detected/ Absence	
	Coliforms,	MPN/g	5	2	<1.8	10^2
		CFU/g	5	2	<10	10^2
	Aerobic Plate Count, CFU/g		5	2	10^4	10^6

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TABLE 4. CONFECTIONERIES cont.

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria		n	c	m	M
Ethnic Flour-based Confectioneries (Polvoron, Piaya and Barquillos)	Yeast and Mold Count, CFU/g		5	2	10	10^3
	Coliforms, CFU/g		5	2	10	10^2
Coconut sap sugar	*Salmonella*/25g		5	0	Not detected/ Absence	
	E. coli	CFU/g	5	0	<10	-
		MPN/g	5	0	<3.0	-
		/25g	5	0	Not detected/ Absence	
	Coliforms	CFU/g	5	0	< 10	-
		MPN/g	5	0	<3.0	-
		/25g	5	0	Not detected/ Absence	
	Aerobic Plate Count, CFU/g		5	0	< 500	-
	Yeast and Mold Count, CFU/g		5	0	< 10	-
Dry, granulated sugar	Aerobic Plate Count, CFU/g		5	0	<200	
	Yeast, CFU/g		5	0	<10	-
	Molds, CFU/g		5	0	<10	-
Liquid Sugar (sugar syrup)	Aerobic Plate Count, CFU/g		5	0	<100	
	Yeast, CFU/g		5	0	<10	-
	Molds, CFU/g		5	0	<10	-
Non-nutritive sweeteners (e.g. aspartame, sucralose) **and bulk sweeteners** (e.g. polysols)	Aerobic Plate Count, CFU/g		5	0	$5.0x10^2$	10^3
	Yeast and Molds, CFU/g		5	0	<100	-
	Coliforms	CFU/g	5	0	<10	-
		MPN/g	5	0	<3.0	-
		/25g	5	0	Not detected/ Absence	
	E. coli	CFU/g	5	0	<10	-
		MPN/g	5	0	<3.0	-
		/25g	5	0	Not detected/ Absence	
	Salmonella/ 25g		5	0	Not detected/ Absence	
	S. aureus, CFU/g		5	0	<10	-

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TABLE 5. FRUITS AND VEGETABLES, NUTS AND SEEDS

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria		n	c	m	M
Frozen Vegetables & Fruits (pH >4.5)	*E.coli*, CFU/g		5	2	10^2	10^3
Fermented Vegetables, Ready to Eat (e.g. Kimchi)	Yeast and Mold Count, CFU/g		5	2	10^2	10^4
	Coliforms	MPN/g	5	0	< 3.0	-
		CFU/g	5	0	<10	-
		/25g	5	0	Not detected/ Absence	
	E.coli	MPN/g	5	0	< 3.0	-
		CFU/g	5	0	<10	-
		/25g	5	0	Not detected/ Absence	
	Salmonella/25g		5	0	Not detected/ Absence	
	S. aureus, CFU/g		5	0	10	-
Fruits & Vegetable products in Hermetically sealed containers (thermally processed)	Commercial Sterility		6	0	Commercially sterile	
Dried Vegetables	*E.coli,* CFU/g		5	2	10^2	10^3
Coconut (desiccated)	*Salmonella*/25g		5	0	Not detected/ Absence	
	Aerobic Plate Count, CFU/g		5	0	5×10^3	-
	Coliforms, CFU/g		5	0	50	-
	Yeast and Mold Count, CFU/g		5	0	10^2	-
	E.coli,	MPN/g	5	0	< 3.0	-
		CFU/g	5	0	<10	
		/25g	5	0	Not detected/ Absence	

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TABLE 5. FRUITS AND VEGETABLES, NUTS AND SEEDS Cont.

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria		n	c	m	M
Peanut Butter & other Nut Butters ➢ consumed without heating or other treatment to destroy microbes ➢ used as ingredient in high moisture food	*Salmonella*/25g		5	0	Not detected/ Absence	
Sun Dried Fruits	Molds, CFU/g		5	2	10^2	10^4
	Osmophilic Yeasts, CFU/g		5	2	10	10^3
	E.coli, MPN/g		5	2	3	11
Dried Fruits (e.g. dried mangoes, dates, figs, apricots, raisins etc.)	Yeast, CFU/g		5	2	10	10^2
	Molds, CFU/g		5	2	10^2	10^3
	E. coli,	CFU/g	5	0	<10	-
		MPN/g	5	0	<3.0	-
		/25g	5	0	Not detected/ Absence	
	Salmonella/ 25g		5	0	Not detected/ Absence	
Ethnic food products – Sweet preserves in syrup e.g. *Kaong*, *Langka,* Banana, legumes, chickpeas, red beans, white kidney beans, Coconut, *Nata de Coco*, Mixed Preserves (halo-halo)	Acidified sweet preserves: **pH ≤4.6; (a_w) > 0.85**					
	Aerobic Plate Count, CFU/g		5	0	10^2	-
	Yeast and Mold Count, CFU/g		5	0	10^2	-
	Low acid sweet preserves: **pH > 4.6; (a_w) > 0.85**					
	Commercial Sterility		6	0	Commercially sterile	
Purple Yam (Ube) Jam (Halaya)	Commercial Sterility		6	0	Commercially sterile	
Malunggay (Moringa) powder	Aerobic Plate Count, CFU/g		5	2	10^4	-
	Yeast and Mold Count, CFU/g		5	2	10^3	-
	E.coli,	CFU/g	5	0	<10	-
		MPN/g	5	0	<3.0	
		/25g	5	0	Not detected/ Absence	
	Salmonella/25g		5	0	Not detected/ Absence	
	S.aureus, CFU/g		5	0	<10	-
	Enterobacteriaceae, CFU/g		5	2	10^2	-

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M - Level which when exceeded in one or more samples would cause the lot to be rejected as this indicates potential health hazard or imminent spoilage

TABLE 6. EGG AND EGG PRODUCTS

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria	n	c	m	M
Pasteurized Egg Products (smoked, liquid, frozen or dried)	Coliforms, CFU/g	5	2	10	10^3
	Salmonella/25g	5	0	Not detected/ Absence	
	Yeast and Mold Count, CFU/g (for dried products)	5	0	10	-
	Aerobic Plate Count, CFU/g	5	2	5×10^4	10^6

TABLE 7. CEREALS AND CEREAL PRODUCTS

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria	n	c	m	M
Breakfast Cereals	Molds, CFU/g	5	2	10	10^3
	Yeast & Yeast-like fungi, CFU/g	5	2	10	10^2
	Coliform, CFU/g	5	2	10	10^2
	Aerobic Plate Count, CFU/g	5	2	10^3	10^4
Cereals/Cereal Grains	Yeast and Mold Count, CFU/g	5	2	10^2	10^4
	Aerobic Plate Count, CFU/g	5	2	10^3	10^6
	Coliform, CFU/g	5	2	10^2	10^4
	E.coli, CFU/g	5	2	10^2	10^4
Cultured seeds and grains (Sprouted seeds) e.g. bean sprouts, alfalfa etc.	*E.coli*, MPN/g	5	2	10^2	10^3
	Fecal Coliform, MPN/g	5	2	10^3	10^5
	Salmonella/25g	5	0	Not detected/ Absence	
Soya Flours, Concentrates and Isolates	Molds, CFU/g	5	2	10^3	10^5
	Salmonella/25g	5	0	Not detected/ Absence	
Flour, Corn meal, Corn grits, Semolina	Molds, CFU/g	5	2	10^2	10^4
	Yeast & Yeast-like fungi, CFU/g	5	2	10	10^2
	Coliform, CFU/g	5	2	10	10^2
	Bacillus subtilis, CFU/g "rope spores"	5	2	10	10^2
Dry Mixes (e.g. Pancake mix, Purple yam mix)	Aerobic Plate Count, CFU/g	5	2	10^2	10^6
	Yeast and Mold Count, CFU/g	5	2	10^2	10^5
	Coliforms, CFU/g	5	0	10^4	-
Frozen entrees containing Rice or Corn Flour as main ingredient	*Bacillus cereus*, CFU/g	5	1	10^2	10^4

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M - Level which when exceeded in one or more samples would cause the lot to be rejected as this indicates potential health hazard or imminent spoilage

TABLE 7. CEREALS AND CEREAL PRODUCTS cont.

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria		n	c	m	M
Soy Protein	Coliforms, CFU/g		5	2	10^2	10^3
	E.coli, CFU/g		5	1	10	10^2
	Clostridium perfringens, CFU/g		5	2	10	10^2
	Yeast and Mold Count, CFU/g		5	2	10	10^2
	Salmonella/25g		5	0	Not detected/ Absence	
	Aerobic Plate Count, CFU/g		5	2	10^2	10^5
Tofu	*Bacillus cereus,* CFU/g		5	2	10^2	10^3
	E. coli	MPN/g	5	0	1.8	-
		CFU/g	5	0	<10	-
	S. aureus, CFU/g		5	2	10^2	10^3
Pasta Products and Noodles Uncooked (wet & dry)	Coliforms, CFU/g		5	2	10	10^3
	Yeast and Mold Count, CFU/g		5	2	10^2	10^5
	S. aureus, CFU/g		5	1	10^2	10^4
	Salmonella/25g		5	0	Not detected/ Absence	
	Aerobic Plate Count, CFU/g		5	2	10^3	10^5
Starch	Coliforms, CFU/g		5	2	10	10^2
	Yeast and Mold Count, CFU/g		5	2	10^2	10^3
	Salmonella/25g		5	0	Not detected/ Absence	
	Aerobic Plate Count, CFU/g		5	2	10^3	5×10^4
Coconut Flour	Aerobic Plate Count, CFU/g		5	0	10^4	-
	Coliforms, CFU/g		5	0	50	-
	E. coli, CFU/g		5	0	<10	-
	S. aureus, CFU/g		5	0	<10	-
	Salmonella/25g		5	0	Not detected/ Absence	
	Yeast and Mold Count, CFU/g		5	0	10^2	-
Instant noodles (noodle cake)	Coliforms, CFU/g		5	2	10	10^3
	S. aureus, CFU/g		5	2	10^2	10^4
	Salmonella/25g		5	0	Not detected/ Absence	
	Aerobic Plate Count, CFU/g		5	2	10^3	10^5
	Yeast and Mold Count, CFU/g		5	2	10^2	10^5
Instant noodles (mixed with seasoning)	Coliforms, CFU/g		5	2	10^2	10^3
	S. aureus, CFU/g		5	2	10^2	10^4
	Salmonella/25g		5	0	Not detected/ Absence	
	Aerobic Plate Count, CFU/g		5	2	10^4	10^5
	Yeast and Mold Count, CFU/g		5	2	10^3	10^5

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M - Level which when exceeded in one or more samples would cause the lot to be rejected as this indicates potential health hazard or imminent spoilage

TABLE 7. CEREALS AND CEREAL PRODUCTS cont.

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria		n	c	m	M
Rice based desserts (rice cakes), ready to eat e.g. *kakanin*, *suman*, layered, moulded, rice balls, mochi	Aerobic Plate Count, CFU/g		5	2	10^6	10^7
	Bacillus cereus, CFU/g		5	2	10^2	10^4
	S. aureus, CFU/g		5	2	10^2	10^4
	E.coli	MPN/g	5	2	<3.0	10^2
		CFU/g	5	2	<10	10^2
	Salmonella/ 25g		5	0	Not detected/ Absence	
	Yeast and Molds Count, CFU/g		5	2	<10	10^4

TABLE 8. BAKERY PRODUCTS

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria	n	c	m	M
Frozen Bakery products (ready to eat) with low-acid or high a_w fillings or toppings	*S. aureus*, CFU/g	5	1	10^2	10^4
	Salmonella/ 25g	5	0	Not detected/ Absence	
Frozen Bakery Products (to be cooked) with low-acid or high a_w fillings or toppings (e.g. meat pies, pizzas)	*S. aureus*, CFU/g	5	1	10^2	10^4
	Salmonella/ 25g	5	0	Not detected/ Absence	
Frozen and Refrigerated Doughs	*Salmonella*/25g	5	0	Not detected/ Absence	
Baked Goods (e.g. breads, cakes, pie crust, pastries and fried doughs)	Yeast, CFU/g	5	2	<10	10^3
	Mold, CFU/g	5	2	$<10^2$	10^3
	Aerobic Plate Count, CFU/g	5	2	10^4	10^5
	Coliforms, CFU/g	5	2	<10	10^2
	Salmonella/25g	5	0	Not detected/ Absence	
Coated or Filled, Dried Shelf-Stable Biscuits	[1]Coliforms, CFU/g	5	2	10	10^2
	Salmonella/25g	5	0	Not detected/ Absence	

[1] If positive for Coliform, *E. coli* must be tested and should be not detected.

TABLE 9. READY TO EAT SAVOURIES

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria	n	c	m	M
Snack Foods (e.g. potato chips, popcorn, pretzels, rice crackers, flavored crackers, processed whole nuts, yoghurt- cereal- and honey-covered nuts, dried fruit nut and cereal snacks, crackers with fish, fish product or flavoring)	Molds, CFU/g	5	2	10	10^3
	Yeast & Yeast-like fungi, CFU/g	5	2	10	10^2
	Coliform, CFU/g	5	2	10	10^2
	Aerobic Plate Count, CFU/g	5	2	10^3	10^4

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M - Level which when exceeded in one or more samples would cause the lot to be rejected as this indicates potential health hazard or imminent spoilage

TABLE 10. MEAT AND MEAT PRODUCTS

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria		n	c	m	M
Dried Animal Products	*S. aureus*, CFU/g		5	1	10^2	10^4
	Clostridium perfringens, CFU/g		5	1	10^2	10^4
	Salmonella/25g		10	0	Not detected/ Absence	
Meat Paste & Paté (heat treated)	*Salmonella*/25g		5	0	Not detected/ Absence	
	Clostridium perfringens, CFU/g		5	2	10^2	10^3
	S. aureus, CFU/g		5	2	10^2	10^3
	[1]Coliforms, CFU/g		5	2	10	10^2
	Aerobic Plate Count, CFU/g		5	2	10^4	10^5
Cold Cuts, Frozen & Chilled Hot Dogs, Corned Beef, Luncheon Meat	*E.coli*	MPN/g	5	0	<1.8	-
		CFU/g	5	0	<10	-
		/25g	5	0	Not detected/ Absence	
	Salmonella/25g		10	0	Not detected/ Absence	
	S. aureus, CFU/g		5	2	10^2	10^3
	L. monocytogenes/25g		5	0	Not detected/ Absence	
	Aerobic Plate Count, CFU/g		5	2	10^5	10^6
Packaged cooked cured/salted meat (ham, bacon)	*S. aureus*, CFU/g		5	1	10^2	10^3
	Salmonella/25g		5	0	Not detected/ Absence	
	Listeria monocytogenes/25g		5	0	Not detected/ Absence	
Fermented, comminuted meat, not cooked (dry & semi-dry fermented sausages)	*E.coli*, MPN/g		5	1	3.6	9.2
	S. aureus, CFU/g		5	1	10^3	10^4
	Salmonella/25g		5	0	Not detected/ Absence	
Cooked Poultry Meat, Frozen to be reheated before eating (e.g. prepared frozen meals chicken burgers, chicken turkey rolls, chicken nuggets, other breaded poultry meat products)	Aerobic Plate Count, CFU/g		5	3	10^4	10^5
	S. aureus, CFU/g		5	1	10^3	10^4
	Listeria monocytogenes/25g		5	0	Not detected/ Absence	
	Salmonella/25g		5	0	Not detected/ Absence	
	Campylobacter jejuni/25g		5	0	Not detected/ Absence	

[1] If positive for Coliform, *E. coli* must be tested and should be not detected.

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m- Acceptable level of microorganisms determined by a specified method; the values are generally based on levels that are achievable under GMP
M - Level which when exceeded in one or more samples would cause the lot to be rejected as this indicates potential health hazard or imminent spoilage

TABLE 10. MEAT AND MEAT PRODUCTS Cont.

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria		n	c	m	M
Cured/Smoked Poultry Meat	*S. aureus*, CFU/g		10	1	10^3	10^4
	Salmonella/25g		10	0	Not detected/ Absence	
Dehydrated Poultry Products	*Salmonella*/ 25g		10	0	Not detected/ Absence	
Meat Products in hermetically sealed containers	Commercial sterility		6	0	Commercially sterile	
Marinated Meat products [a] eg. Marinated meat and meat preparations (tapa, sisig, etc.), -Marinated poultry, Dim sum made from meat (siomai)	*Salmonella /25g*		5	0	Not detected/ Absence	
	Listeria monocytogenes /25g		5	0	Not detected/ Absence	
	S. aureus, CFU/g		5	1	10^2	10^3
Minced meat and meat preparations made from poultry meat intended to be eaten cooked	Aerobic Plate Count, CFU/g		5	2	$5x10^5$	$5x10^6$
	E. coli, CFU/g		5	2	50	$5x10^2$
	Salmonella/25g		5	0	Not detected/ Absence	
Minced meat and meat preparations made from species other than poultry intended to be eaten cooked	*Salmonella/25g*		5	0	Not detected/ Absence	
	Aerobic Plate Count, CFU/g		5	2	5×10^5	5×10^6
	E.coli, CFU/g		5	2	50	500
Foods cooked immediately prior to sale or consumption eg. Takeaway food, burgers, kebabs, sausages, pizza, ready meals (cook/chill and cook/freeze) after regeneration	Aerobic Plate Count, CFU/g		5	2	10^3	10^5
	Enterobacteriaceae, CFU/g		5	2	10^2	10^4
	E.coli, CFU/g		5	1	20	10^2
	S. aureus (coagulase +), CFU/g		5	1	20	10^4
	Salmonella/25g		5	0	Not detected/ Absence	
	Listeria monocytogenes/ 25g	For refrigerated food (excluding frozen food) or food intended for infants	5	0	Not detected/ Absence	
		For other ready-to-eat food	5	1	<10	10^2

[a] Products from cooked (marinated, stewed, smoked, roasted, steamed, boiled, fermented, processed by special technologies (meat, pork, beef, lamb, chicken, rabbit, etc.), suitable for direct consumption

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M - Level which when exceeded in one or more samples would cause the lot to be rejected as this indicates potential health hazard or imminent spoilage

TABLE 11. FISH AND OTHER SEAFOOD PRODUCTS

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria	n	c	m	M
Fresh Frozen Fish[a] and Cold-Smoked[b]	*E.coli,* MPN/g	5	3	11	460
	S. aureus, CFU/g	5	2	10^3	10^4
	V. parahaemolyticus, MPN/g	5	2	10^2	10^3
	Salmonella/25g	5	0	Not detected/ Absence	
	Aerobic Plate Count, CFU/g	5	3	$5x10^5$	10^7
Pre-Cooked Breaded Fish	*E.coli*, MPN/g	5	2	11	460
	S. aureus, CFU/g	5	1	10^3	10^4
	Aerobic Plate Count, CFU/g	5	2	5×10^5	10^7
Frozen Raw Crustaceans[c]	*E. coli,* MPN/g	5	3	11	460
	S. aureus , CFU/g	5	2	10^3	10^4
	Salmonella /25g	5	0	Not detected/ Absence	
	V. parahaemolyticus, MPN/g	5	1	10^2	10^3
	Aerobic Plate Count, CFU/g	5	3	10^6	10^7
Frozen Cooked Crustaceans	*E. coli*, MPN/g	5	2	11	460
	S. aureus, CFU/g	5	0	10^3	-
	Salmonella/25g	5	0	Not detected/ Absence	
	V. parahaemolyticus, MPN/g	5	1	10^2	10^3
	Aerobic Plate Count, CFU/g	5	2	$5x10^5$	$5x10^7$
Cooked Crustaceans	*S. aureus*, CFU/g	5	2	10^2	10^3
	Salmonella/25g	5	0	Not detected/ Absence	
	Aerobic Plate Count, CFU/g	5	2	10^5	10^6
Cooked, Chilled & Frozen Crabmeat[d]	*E. coli*, MPN/g	5	1	11	460
	S. aureus, CFU/g	5	0	10^3	-
	V. parahaemolyticus, MPN/g	10	1	10^2	10^3
	Aerobic Plate Count, CFU/g	5	2	10^5	10^6

[a] For fish derived from inshore/inland waters of doubtful bacteriological quality, particularly warm areas or harvested during summer.

[b] Test for *S. aureus* recommended for smoked fish.

[c] Test for *S.aureus* recommended for breaded products. *Salmonella* and *V. parahaemolyticus* applied to products from waters or harvested during summer.

[d] Aerobic Plate Count for frozen products only.

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TABLE 11. FISH AND OTHER SEAFOOD PRODUCTS Cont.

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria	n	c	m	M
Fresh & Frozen Bivalve Molluscs[e]	*E. coli*, MPN/g	5	1	2.3×10^2	3.3×10^2
	Salmonella/25g	20	0	Not detected/ Absence	
	V. parahaemolyticus, MPN/g	10	1	10^2	10^3
	Aerobic Plate Count, CFU/g	5	0	5×10^5	-
Fish & Shellfish products, cooked crustaceans in hermetically sealed containers (thermally processed) eg. cooked bagoong/shrimp paste	Commercial Sterility	6	0	Commercially sterile	
Ethnic food products – Dried, salted fish	Aerobic Plate Count, CFU/g	5	2	10^5	5×10^5
	Yeast and Mold Count, CFU/g	5	2	10^3	10^4
	Coliforms, MPN/g	5	2	10	10^2
	E.coli, MPN/g	5	2	<3.0	11
	S. aureus, MPN/g	5	2	10^3	-
Smoked Fish	Aerobic Plate Count, CFU/g	5	2	5×10^5	10^7
	Salmonella/25g	5	0	Not detected/ Absence	
	E.coli, MPN/g	5	3	11	460
	S. aureus, CFU/g	5	2	10^2	10^4
Salt Fermented Fish and Shrimps (bagoong)	Aerobic Plate Count, CFU/g	5	2	5×10^5	10^7
	Coliforms, CFU/g	5	2	10	10^2
Thermally processed fish products	Commercial Sterility	6	0	Commercially Sterile	

[e] Criteria to be used only for molluscs from approved harvesting areas where waters are free from enteric bacteria or virus contamination and no significant contamination by toxic metals or chemicals may be accumulated by animals. Test for *Salmonella* and *V. parahaemolyticus* recommended for molluscs from endemic or harvested from warm waters (15°C or above) during summer.

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M - Level which when exceeded in one or more samples would cause the lot to be rejected as this indicates potential health hazard or imminent spoilage

TABLE 11. FISH AND OTHER SEAFOOD PRODUCTS Cont.

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria	n	c	m	M
Aquatic products[f] -cooked (heat-treated) aquatic product -intended for human consumption aquatic plant products (algae)	*Salmonella/25g*	5	0	Not detected/ Absence	
	Vibrio parahaemolyticus, MPN/g	5	1	10^2	10^3
	S. aureus, CFU/g	5	1	10^2	10^3
Fish and crustacean based processed meat eg. fish ball, squid ball	Aerobic Plate Count, CFU/g	5	2	10^5	10^6
	S. aureus, CFU/g	5	0	10^3	-
	V. parahaemolyticus, MPN/g	10	1	10^2	10^3
	E.coli, MPN/g	5	1	11	500

[f] Products made from fish, crustaceans, molluscs, invertebrates, echinoderms and other aquatic organisms that have undergone heat treatment (steamed, cooked, baked, deep fried, etc.), suitable for direct consumption. Products that have been cleaned but not thermally processed, suitable for direct consumption, including live, fresh, frozen fish (fish slices), shrimp, cephalopods, live crab, live molluscs, as well as products made from live snails, crabs, molluscs, caviar by non-thermal treatment (salting, marinating, alcoholization), suitable for direct consumption. Products made from algae, suitable for direct consumption, which have undergone a certain treatment, including thermal (boiled, deep fried).

TABLE 12. SPICES, SOUPS, SAUCES, SALADS AND PROTEIN PRODUCTS

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria	n	c	m	M
Dry Mixes for Soup and Sauces	*Clostridium perfringens, CFU/g*	5	2	10^2	10^3
	Yeast and Mold Count, CFU/g	5	3	10^3	4×10^3
	Coliforms, CFU/g	5	3	10^2	10^3
	Aerobic Plate Count, CFU/g	5	2	10^6	4×10^6
	Salmonella/25g	5	0	Not detected/ Absence	
Yeast	*Salmonella*/25g	5	0	Not detected/ Absence	
Spices	Molds, CFU/g	5	2	10^3	10^4
	Aerobic Plate Count, CFU/g	5	2	10^5	4×10^6
Spices (ready to eat)	[1]Coliforms, CFU/g	5	2	10^2	10^3
	S. aureus, CFU/g	5	2	10^2	10^4
	Salmonella/25g	5	0	Not detected/ Absence	
	Molds, CFU/g	5	2	10^3	10^4
	Aerobic Plate Count, CFU/g	5	2	10^5	$4x10^6$

[1] If positive for Coliform, *E. coli* must be tested and should be not detected.

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M - Level which when exceeded in one or more samples would cause the lot to be rejected as this indicates potential health hazard or imminent spoilage

TABLE 12. SPICES, SOUPS, SAUCES, SALADS AND PROTEIN PRODUCTS cont.

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria		n	c	m	M
Food Grade Gelatin	*E. coli*	CFU/g	5	0	<10	-
		MPN/g	5	0	<3.0	-
		/25g	5	0	Not detected/ Absence	
	Salmonella/ 25g		5	0	Not detected/ Absence	
Emulsified sauce pH ≤4.6 (e.g. Mayonnaise, Thousand Island, Ranch, French)	Aerobic Plate Count, CFU/g		5	2	10	10^2
	Yeast and Mold Count, CFU/g		5	2	10	10^2
	Salmonella/25g		5	0	Not detected/ Absence	
	Listeria monocytogenes/25g		5	0	Not detected/ Absence	
Instant noodles seasoning	Coliforms, CFU/g		5	2	10^2	10^3
	Yeast and Mold Count, CFU/g		5	2	10^3	$4x10^3$
	Aerobic Plate Count, CFU/g		5	2	10^4	10^6
	Salmonella/ 25g		5	0	Not detected/ Absence	
Ready to eat Flavourings/ Instant condiments (e.g. soy sauce and sauce and sauce products, composite seasonings)	*Salmonella*/ 25g		5	0	Not detected/ Absence	
	S. aureus, CFU/g		5	2	10^2	10^3
Aquatic dressing	*Salmonella*/ 25g		5	0	Not detected/ Absence	
	S. aureus, CFU/g		5	2	10^2	10^3
	Vibrio parahaemolyticus, MPN/g		5	1	10^2	10^3
Salads and Sandwich spreads (excluding cocoa milk based sandwich spreads)	Aerobic Plate Count, CFU/g		5	2	$<10^6$	10^7
	Yeast and Mold Count, CFU/g		5	2	10	10^2
	Salmonella/ 25g		5	0	Not detected/ Absence	
	Listeria monocytogenes/ 25g		5	0	Not detected/ Absence	

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TABLE 13. BEVERAGES

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria	n	c	m	M
Non Alcoholic Beverages (e.g. Ready to drink, softdrinks, iced tea, energy drinks, jelly drinks)	Yeast and Mold Count, CFU/mL	5	0	<1	-
	Coliforms, CFU/mL	5	0	<1	-
	Aerobic Plate Count, CFU/mL	5	1	10	10^2
Frozen Juice Concentrate	Aerobic Plate Count, CFU/mL	5	2	10^2	10^5
	Yeast and Mold Count, CFU/mL	5	1	10	50
Juices in hermetically sealed containers (Tetra Pack etc.)	Commercial Sterility	6	0	Commercially sterile	
Powdered Beverages (e.g. iced tea, powdered juices/mixes)	Aerobic Plate Count, CFU/g	5	2	10^3	10^4
	Yeast and Mold Count, CFU/g	5	1	10	10^2
	Coliforms, CFU/g	5	0	10	-
Fruit beverage products	Aerobic Plate Count, CFU/mL	5	0	10^3	-
	Yeast and Mold Count, CFU/mL	5	0	50	-
	Coliforms, CFU/mL	5	0	10	-
	E.coli, CFU/mL	5	0	<10	-
Bottled Water (Purified/Distilled Water)	Heterotrophic Plate Count, CFU/mL	5	1	10^3	10^5
	[1]Coliforms, MPN/100mL	5	1	<1.1	-
	Pseudomonas aeruginosa/100mL	5	0	Not detected/ Absence	
	Faecal streptococci/100mL	5	0	Not detected/ Absence	
Bottled Water (Mineral Water)	Heterotrophic Plate Count, CFU/mL	5	1	10^4	10^6
	[1]Coliforms, MPN/100mL	5	1	<1.1	-
	Pseudomonas aeruginosa/100mL	5	0	Not detected/ Absence	
	Faecal streptococci/100mL	5	0	Not detected/ Absence	
Chilled young coconut water (Buko juice)	Aerobic Plate Count, CFU/mL	5	0	$<10^4$	-
	Yeast and Mold Count, CFU/mL	5	0	$< 2.5 \times 10^2$	-
	Coliforms, CFU/mL	5	0	< 10	-

[1] If positive for Coliform, *E. coli* must be tested and should be not detected.

Legend: n - Number of sample units selected from a lot of food to be examined
c - Maximum allowable number of marginally acceptable samples
m- Acceptable level of microorganisms determined by a specified method; the values are generally based on levels that are achievable under GMP
M - Level which when exceeded in one or more samples would cause the lot to be rejected as this indicates potential health hazard or imminent spoilage

TABLE 14. FOOD FOR INFANTS AND YOUNG CHILDREN

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria	n	c	m	M
Powdered Infant Formula with or without added Lactic acid producing cultures (intended for 0 to 6 months old); **Formula for Medical Purposes and Human Milk Fortifiers**	**Finished product:**				
	Cronobacter spp. / 10g	30	0	Not detected/ Absence	
	Salmonella / 25 g	60	0	Not detected/ Absence	
	[2]Process Hygiene Indicators (for manufacturers):				
	Aerobic Plate Count, CFU/g	5	2	$5x10^2$	$5x10^3$
	Enterobacteriaceae/ 10g	10	2	Not detected/ Absence	
	For complaint investigation (additional tests):				
	Coliforms, MPN/g	5	2	3	11
	E. coli, MPN/g	10	1	1.8	10
Follow-up Formula/Milk Supplement (from 6 months infants to 36 months young children); **Formula for Special Medical Purposes for Young Children**	**Finished product:**				
	Salmonella / 25 g	60	0	Not detected/ Absence	
	[2]Process Hygiene Indicators (for manufacturers):				
	Aerobic Plate Count, CFU/g	5	2	$5x10^2$	$5x10^3$
	Enterobacteriaceae/ 10g	10	2	Not detected/ Absence	
	For complaint investigation (additional tests):				
	Coliforms, MPN/g	5	2	3	11
	E. coli, MPN/g	10	1	1.8	10
Infant Formula - liquid (UHT/sterilized)	Commercial Sterility	6	0	Commercially Sterile	
Baby foods in hermetically sealed containers	Commercial Sterility	6	0	Commercially Sterile	
Dried and Instant products requiring reconstitution	[1]Coliforms, MPN/g	5	1	10	10^2
	Aerobic Plate Count, CFU/g	5	1	10^4	10^5
	Salmonella/25g	60	0	Not detected/ Absence	
	Listeria monocytogenes/25g	5	0	Not detected/ Absence	

[1] If positive for Coliform, *E. coli* must be tested and should be not detected.

[2] Process hygiene criteria to be applied to the finished product (powder form) or at any other previous point that provides the information necessary for the purpose of verification. The criteria are intended to be used by the manufacturer as a means of ongoing assessment of their hygiene programs and not by competent authority. (CAC/RCP 66-2008)

Legend: n - Number of sample units selected from a lot of food to be examined
c - Maximum allowable number of marginally acceptable samples
m- Acceptable level of microorganisms determined by a specified method; the values are generally based on levels that are achievable under GMP
M - Level which when exceeded in one or more samples would cause the lot to be rejected as this indicates potential health hazard or imminent spoilage

TABLE 14. FOOD FOR INFANTS AND YOUNG CHILDREN Cont.

FOOD DESCRIPTION	TEST/MICROORGANISM Reference Criteria	n	c	m	M
Dried products requiring reconstitution and boiling before consumption	[1]Coliforms, CFU/g	5	3	10	10^2
	Salmonella/25g	5	0	Not detected/ Absence	
	Aerobic Plate Count, CFU/g	5	3	10^5	10^6
Cereal based foods for infants	*Bacillus cereus,* CFU/g	10	1	10^2	10^4
	Clostridium perfringens, CFU/g	5	1	10	10^2
	Aerobic Plate Count, CFU/g	5	2	10^3	10^4
	Salmonella/25 g	10	0	Not detected/ Absence	
	Coliforms, MPN/g	5	2	3	20
Ready-to-Use Therapeutic Foods (RUTF) and Ready-to-Use-Supplementary Foods (RUSF), 6 – 59 months of age	*Salmonella* /25g	30	0	Not detected/ Absence	

[1] If positive for Coliform, *E. coli* must be tested and should be not detected.

Legend: n - Number of sample units selected from a lot of food to be examined
c - Maximum allowable number of marginally acceptable samples
m- Acceptable level of microorganisms determined by a specified method; the values are generally based on levels that are achievable under GMP
M - Level which when exceeded in one or more samples would cause the lot to be rejected as this indicates potential health hazard or imminent spoilage

Annex B

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