



No: 413/2018

The Embassy of the People's Democratic Republic of Algeria presents its compliments to the Ministry of International Trade and Industry of Malaysia and has the honor to inform the honorable Ministry of the entry into force as of July 2018 of the Regulatory Text on the microbiological criteria for foodstuffs (herewith enclosed), published in the Official Gazette N°39 of 2 July 2017. 26/11/18 RSU

As a result, all the Malaysian foodstuffs exporting Companies must comply with these microbiological criteria required by products for export to Algeria.

The Embassy of the People's Democratic Republic of Algeria avails itself on this opportunity to renew to the Ministry of International Trade and Industry of Malaysia the assurances of its highest consideration.

15<sup>th</sup> November, 2018

Ministry of International Trade and Industry of Malaysia  
General Secretary  
N°7, Menara MITI, Jalan Sultan Haji Ahmad Shah  
50480, Wilayah Persekutuan  
Kuala Lumpur



## MINISTRY OF TRADE

**Inter-ministerial Order of 2 Moharram 1438 corresponding to 4 October 2016 setting microbiological criteria for foodstuffs.**

Minister of Trade,  
Minister of Industry and Mines,  
Minister of Agriculture, Rural and fishing Development,  
Minister of Water Resources and Environment,  
Minister of Health, Population and Hospital Reform,

Given Presidential Decree No. 15-125 of 25 Rajab 1436 corresponding to 14 May 2015, amended, Appointing members of the Government;

Given Executive Decree No. 04-189 of 19 Jumada El Oula 1425 corresponding to 7 July 2004 setting hygiene and sanitation measures applicable to fishery and aquaculture products;

Given Executive Decree No. 15-172 of 8 Ramadhan 1436 corresponding to 25 June 2015 setting the terms and conditions applicable to the microbiological specifications of foodstuffs, in particular Article 8;

Given Decree of 14 Safar 1415 corresponding to 23 July 1994, as amended and supplemented, relating to the microbiological specifications of certain foodstuffs;

Given the Inter-ministerial Decree of 22 Dhou El Hidja 1426 corresponding to 22 January 2006, amended and supplemented, setting the proportions of elements contained in natural mineral waters and spring waters as well as the conditions of their treatment or authorized additions ;

Decreeing:

Art. 1. - In application of the provisions of Article 8 of Executive Decree No. 15-172 of 8 Ramadhan 1436 corresponding to June 25, 2015, abovementioned, the purpose of this decree is to set the microbiological criteria of foodstuffs.

Art. 2. - For the purposes of the provisions of this Order, it is meant by:

Art. 4. - The foodstuffs referred to in Article 3 above must not contain microorganisms or their toxins or metabolites in quantities that pose an unacceptable risk to the health of the consumer.

Art. 5. - Stakeholders responsible for the release of foodstuffs

- **Compliance with microbiological criteria:** obtaining the satisfactory or acceptable results referred to in the Annexes to this Order, for microbiological analyzes based on the values set for these criteria, into account the regulations in force on the procedures for taking samples and conducting the analysis;

- **Sampling plan:** planned procedure that allows choosing, or picking up distinct samples from a lot, in order to obtain the desired information, such as a decision on the conformity of the lot. A sampling plan defines the number of individuals in the sample and the decision rule to assess the conformity or not of the lot to the specification;

- **The interpretation of the results of the analysis:** conclusion on the quality of foodstuffs, with regard to their acceptability for consumers' health, in accordance with the criteria defined in the annexes to this Order;

- **Germ:** product obtained by germination and development of a seed in water or in another medium, harvested before the first leaves develop and destined to be eaten whole, with the seed.

Art. 3- The categories of foods to which the provisions of this decree apply are:

- milks and dairy products;
- red and white meat and their derivatives;
- fishery and aquaculture products;
- animal and vegetable fats;
- canned and semi-preserved foods;
- foods for infants and young children;
- cereals and derived products;
- prepared meals
- water, fruit and vegetable juices and non-alcoholic drinks;
- plants ;
- eggs, egg products, pastries and custards;
- confectionery;

must ensure compliance with the microbiological criteria set out in Annexes I and II to this Order.

Art. 6. - The microbiological criteria relating to the foodstuffs listed in Article 3 above are set out in Annex I to this Order.

Art. 7. - The techniques for testing and interpreting the results of microbiological analyzes of foodstuffs are set in Annex II to this Order.

Art. 8. - The parameters n, c, m and M used in the appendices of this decree represent:

- n: number of units constituting the sample;
- m: number of sprouts present in one gram or one millilitre of product analyzed, which corresponds to the value below which the quality of the product is considered satisfactory;
- M: number of sprouts present in one gram or one milliliter of product analyzed, which corresponds to the value above which the quality of the product is considered unacceptable;
- c: maximum number of sample units of analyzed product that can exceed "m" while being inferior to "M" without the batch being rejected.

Art. 9. - Canned food, whatever the nature of the packaging used, must satisfy, before their release for consumption, the tests of stability envisaged by the regulation in force.

Art. 10. - Stability tests are excluded for canned foods packed in metal, glass or plastic containers, in complexes made in metal and plastic, or complexes made in cardboard, metal and plastic with major defects such as, bulging, buckling and leakage.

Art. 11.- At the end of the various tests carried out on canned food:

- The other foodstuffs provided for in point 15 of Annex I to this Order.

- no apparent defect, in particular bulging or leaking, should be noted;

- the pH variation between the parboiled sampling units and the control sample unit set at room temperature during the periods selected should not exceed 0.5 units.

Art. 12. - Any provision contrary to the present decree, in particular the provisions of the decree of 14 Safar 1415 corresponding to 23 July 1994, modified and completed, relating to the microbiological specifications of certain foodstuffs, are abrogated.

Art. 13. - The provisions of this Order come into force one year after its date of publication in the Official Gazette.

Art. 14. - This decree will be published in the Official Gazette of the People's Democratic Republic of Algeria.

Issued in Algiers, 2 Moharram 1438 corresponding to 4 October 2016.

The Minister of Trade  
Mines

Bekhti BELAIB  
BOUCHOUAREB

Minister of Industry and

Abdesselem

The Minister of Agriculture,  
Resources

rural development and fisheries  
Abdesselam CHELGHOU

Minister of Water

and Environment  
Abdelkader QUALI

The Minister of Health, Population and Hospital  
Reform

Abdelmalek BOUDIAF

**ANNEX I**  
**Microbiological criteria for foodstuffs**  
**1- Milks and dairy products**

| Categories of foodstuffs   | Microorganisms / metabolites | Sampling plan |    | microbiological limits (ufc (1)/g or ufc/ml) |                   |
|--|------------------------------|---------------|----|--|-------------------|
|  |                              | n             | c  | m  | M                 |
| Raw milk   | Aerobic germs at 30 ° C      | 5             | 2  | 3.10 <sub>5</sub>                            | 3.10 <sub>6</sub> |
|  | Coagulase staphylococci +    | 5             | 2  | 10 <sub>2</sub>                              | 10 <sub>3</sub>   |
|  | Thermotolerant coliforms     | 5             | 2  | 5.10 <sub>2</sub>                            | 5.10 <sub>3</sub> |
|  | Salmonella                   | 5             | 0  | Absence in 25ml                              |                   |
|  | antibiotics                  | 1             | /— | Absence in 1ml                               |                   |
|  | Listeria monocytogenes       | 5             | 0  | 100  |                   |
| Pasteurized milk and other pasteurized liquid dairy products...  | Aerobic germs at 30 ° C      | 5             | 2  | 10 <sub>4</sub>                              | 10 <sub>5</sub>   |
|  | Enterobacteriaceae           | 5             | 0  | 10   |                   |
|  | Salmonella                   | 5             | 0  | Absence in 25ml                              |                   |
| UHT milk and sterilized milk   | Aerobic germs at 30 ° C      | 5             | 0  | 10/0.1ml                                     |                   |
| Powdered milk and whey powder  | Enterobacteriaceae           | 5             | 2  | 10 <sub>2</sub>                              | 10 <sub>4</sub>   |
|  | Coagulase staphylococci +    | 5             | 2  | 10 <sub>2</sub>                              | 10 <sub>4</sub>   |
|  | Salmonella                   | 5             | 0  | Absence in 25g                               |                   |
| Raw milk cheeses   | Escherichia coli             | 5             | 2  | 10 <sub>4</sub>                              | 10 <sub>5</sub>   |
|  | Coagulase staphylococci +    | 5             | 2  | 10 <sub>3</sub>                              | 10 <sub>4</sub>   |
|  | Salmonella                   | 5             | 0  | Absence in 25g                               |                   |
|  | Listeria monocytogenes       | 5             | 0  | 100  |                   |
| Milk-based cheeses with less heat treatment than pasteurization and ripened cheeses made from milk or pasteurized whey or having undergone a heat treatment stronger than pasteurization | Escherichia coli             | 5             | 2  | 10 <sub>2</sub>                              | 10 <sub>3</sub>   |
|  | Coagulase staphylococci +    | 5             | 2  | 10   | 10 <sub>2</sub>   |
|  | Salmonella                   | 5             | 0  | Absence in 25g                               |                   |
|  | Listeria monocytogenes       | 5             | 0  | 100  |                   |
| Unripened soft cheese (fresh cheese) from milk or pasteurized whey or having undergone a heat treatment stronger than pasteurization   | Escherichia coli             | 5             | 2  | 10 <sub>2</sub>                              | 10 <sub>3</sub>   |
|  | Coagulase staphylococci +    | 5             | 2  | 10   | 10 <sub>2</sub>   |
|  | Salmonella                   | 5             | 0  | Absence in 25g                               |                   |
|  | Listeria monocytogenes       | 5             | 0  | 100  |                   |
| Cream made from raw milk   | Escherichia coli             | 5             | 2  | 10 <sub>2</sub>                              | 10 <sub>3</sub>   |
|  | Coagulase staphylococci +    | 5             | 2  | 10 <sub>3</sub>                              | 10 <sub>4</sub>   |
|  | Salmonella                   | 5             | 0  | Absence in 25g                               |                   |
|  | Listeria monocytogenes       | 5             | 0  | 100  |                   |

**1- Milks and dairy products (continued)**

| Categories of foodstuffs               | Microorganisms / metabolites | Sampling plan |   | microbiological limits (ufc (1)/g or ufc/ml) |                    |
|--|------------------------------|---------------|---|--|--------------------|
|  |                              | n             | c | m  | M                  |
| Pasteurized cream                      | Enterobacteriaceae           | 5             | 2 | 10   | 10 <sub>2</sub>    |
|  | Coagulase staphylococci +    | 5             | 2 | 10   | 10 <sub>2</sub>    |
|  | Salmonella                   | 5             | 0 | Absence in 25g                               |                    |
|  | Listeria monocytogenes       | 5             | 0 | 100  |                    |
| Ice cream and frozen dairy desserts    | Aerobic germs at 30 ° C      | 5             | 2 | 10 <sub>5</sub>                              | 10 <sub>6</sub>    |
|  | Coagulase staphylococci +    | 5             | 2 | 10   | 10 <sub>2</sub>    |
|  | Enterobacteriaceae           | 5             | 2 | 10   | 10 <sub>2</sub>    |
|  | Enterobacteriaceae (2)       | 5             | 2 | 50   | 50.10 <sub>2</sub> |
|  | Salmonella                   | 5             | 0 | Absence in 25g                               |                    |
|  | Listeria monocytogenes       | 5             | 0 | 100  |                    |
| Raw butter                             | Escherichia coli             | 5             | 2 | 10   | 10 <sub>2</sub>    |
|  | Coagulase staphylococci +    | 5             | 2 | 10 <sub>2</sub>                              | 10 <sub>3</sub>    |
|  | Salmonella                   | 5             | 0 | Absence in 25g                               |                    |
|  | Listeria                     | 5             | 0 | 100  |                    |
| Pasteurized butter                     | Enterobacteriaceae           | 5             | 2 | 10   | 10 <sub>2</sub>    |
|  | Coagulase staphylococci +    | 5             | 2 | 10   | 10 <sub>2</sub>    |
|  | Salmonella                   | 5             | 0 | Absence in 25g                               |                    |
|  | Listeria monocytogenes       | 5             | 0 | 100  |                    |
| Concentrated butter                    | Aerobic germs at 30 ° C      | 5             | 2 | 50.10 <sub>2</sub>                           | 50.10 <sub>3</sub> |
|  | Coagulase staphylococci +    | 5             | 0 | Absence                                      |                    |
|  | Total coliforms              | 5             | 0 | Absence                                      |                    |
|  | Salmonella                   | 5             | 0 | Absence in 25g                               |                    |
| Fermented milks (Lben, Raib ...)       | Total coliforms              | 5             | 2 | 3.10 <sub>4</sub>                            | 3.10 <sub>5</sub>  |
|  | Thermotolerant coliforms     | 5             | 2 | 30   | 3.10 <sub>2</sub>  |
|  | Coagulase staphylococci +    | 5             | 2 | 3.10 <sub>2</sub>                            | 3.10 <sub>3</sub>  |
|  | Salmonella                   | 5             | 0 | Absence in 25g                               |                    |
|  | Listeria monocytogenes       | 5             | 0 | 100  |                    |
| Yogurts or yoghurts and dairy desserts | Enterobacteriaceae           | 5             | 2 | 10   | 10 <sub>2</sub>    |
|  | Coagulase staphylococci +    | 5             | 2 | 10   | 10 <sub>2</sub>    |
|  | Salmonella                   | 5             | 0 | Absence in 25g                               |                    |
|  | Listeria                     | 5             | 0 | 100  |                    |
| Casein-caseinates                      | Aerobic germs at 30 ° C      | 5             | 2 | 3.10 <sub>4</sub>                            | 3.10 <sub>5</sub>  |
|  | Coagulase staphylococci +    | 5             | 0 | Absence                                      |                    |
|  | Total coliforms              | 5             | 0 | Absence in 0.1g                              |                    |
|  | Salmonella                   | 5             | 0 | Absence in 25g                               |                    |

(1) Ufc: colony forming unit.

(2) This criterion applies to the stage of portioning in the retail trade, that is to say during the fractionation or handling for the purpose of direct sale to the final consumer.

## 2- Viandes rouges et derives

| Categories of foodstuffs   | Microorganisms /<br>metabolites | Sampling<br>plan |   | microbiological limits (ufc /g) |                   |
|--|---------------------------------|------------------|---|---------------------------------|-------------------|
|  |                                 | n                | c | m                               | M                 |
| Carcasses, half-carcasses,<br>quarters or parts of<br>cattle, sheep, goats and horses<br>(1) | Pseudomonas                     | 5                | 2 | 10 <sub>4</sub>                 | 10 <sub>5</sub>   |
|  | Coagulase staphylococci<br>+    | 5                | 2 | 10 <sub>2</sub>                 | 10 <sub>3</sub>   |
|  | Enterobacteriaceae              | 5                | 2 | 10 <sub>3</sub>                 | 10 <sub>4</sub>   |
|  | Salmonella                      | 5                | 0 | Absence in 25g                  |                   |
|  | Listeria monocytogenes          | 5                | 0 | Absence in 25g                  |                   |
| Unit portion of<br>red, chilled or frozen meat (2)   | Pseudomonas (3)                 | 5                | 2 | 10 <sub>5</sub>                 | 10 <sub>6</sub>   |
|  | Escherichia coli                | 5                | 2 | 10 <sub>2</sub>                 | 10 <sub>3</sub>   |
|  | Salmonella                      | 5                | 0 | Absence in 25g                  |                   |
| Minced meat  | Aerobic germs at 30 ° C         | 5                | 2 | 5.10 <sub>5</sub>               | 5.10 <sub>6</sub> |
|  | Escherichia coli                | 5                | 2 | 50                              | 5.10 <sub>2</sub> |
|  | Coagulase staphylococci<br>+    | 5                | 2 | 10 <sub>2</sub>                 | 10 <sub>3</sub>   |
|  | Salmonella                      | 5                | 0 | Absence in 25g                  |                   |
| Whole red offal  | Aerobic germs at 30 ° C         | 5                | 2 | 5.10 <sub>5</sub>               | 5.10 <sub>6</sub> |
|  | Pseudomonas (3)                 | 5                | 2 | 5.10 <sub>5</sub>               | 5.10 <sub>6</sub> |
|  | Escherichia coli                | 5                | 2 | 10 <sub>2</sub>                 | 10 <sub>3</sub>   |
|  | Salmonella                      | 5                | 0 | Absence in 25g                  |                   |
| Sliced red offal   | Aerobic germs at 30 ° C         | 5                | 2 | 5.10 <sub>5</sub>               | 5.10 <sub>6</sub> |
|  | Pseudomonas (3)                 | 5                | 2 | 5.10 <sub>5</sub>               | 5.10 <sub>6</sub> |
|  | Escherichia coli                | 5                | 2 | 10 <sub>3</sub>                 | 10 <sub>4</sub>   |
|  | Salmonella                      | 5                | 0 | Absence in 25g                  |                   |
| Mechanically separated meat<br>(MSM) (4)   | Aerobic germs at 30 ° C         | 5                | 2 | 5.10 <sub>5</sub>               | 5.10 <sub>6</sub> |
|  | Escherichia coli                | 5                | 2 | 50                              | 5.10 <sub>2</sub> |
|  | Salmonella                      | 5                | 0 | Absence in 10g                  |                   |
| meat preparations  | Escherichia coli                | 5                | 2 | 5.10 <sub>2</sub>               | 5.10 <sub>3</sub> |
|  | Coagulase staphylococci<br>+    | 5                | 2 | 5.10 <sub>2</sub>               | 5.10 <sub>3</sub> |
|  | Salmonella                      | 5                | 0 | Absence in 25g                  |                   |

(1) The sample is taken after cauterizing the surface.

(2) The sampling concerns depth plus surface without cauterisation.

(3) This analysis is not carried out in the case where the meat is in airtight packaging.

(4) These criteria apply to products using meat removed from bones, covered with meat after deboning, using mechanical means causing destruction or modification of the fibrous structure of the muscles.

### 3- Meat of poultry, rabbits and their derivatives

| Categories of foodstuffs                                 | Microorganisms / metabolites       | Sampling plan |   | microbiological limits (ufc /g) |                   |
|--|------------------------------------|---------------|---|---------------------------------|-------------------|
|  |                                    | n             | c | m                               | M                 |
| whole Poultry, rabbits (1) and cuts of poultry with skin | Escherichia coli                   | 5             | 2 | 5.10 <sub>3</sub>               | 5.10 <sub>4</sub> |
|  | Coagulase staphylococci +          | 5             | 2 | 10 <sub>3</sub>                 | 10 <sub>4</sub>   |
|  | Salmonella                         | 5             | 0 | Absence in 10g                  |                   |
| Poultry cuts without skin and cuts of rabbits            | Escherichia coli                   | 5             | 2 | 10 <sub>3</sub>                 | 10 <sub>4</sub>   |
|  | Coagulase staphylococci +          | 5             | 2 | 5.10 <sub>2</sub>               | 5.10 <sub>3</sub> |
|  | Salmonella                         | 5             | 0 | Absence in 10g                  |                   |
| poultry products intended to be eaten cooked             | Escherichia coli                   | 5             | 2 | 5.10 <sub>2</sub>               | 5.10 <sub>3</sub> |
|  | Coagulase staphylococci +          | 5             | 2 | 5.10 <sub>2</sub>               | 5.10 <sub>3</sub> |
|  | Campylobacter spp, thermotolerants | 5             | 0 | 10 <sub>2</sub>                 |                   |
|  | Salmonella                         | 5             | 0 | Absence in 25g                  |                   |
| Raw poultry offals                                       | Escherichia coli                   | 5             | 2 | 10 <sub>3</sub>                 | 10 <sub>4</sub>   |
|  | Coagulase staphylococci +          | 5             | 2 | 5.10 <sub>2</sub>               | 5.10 <sub>3</sub> |
|  | Salmonella                         | 5             | 0 | Absence in 10g                  |                   |
| Minced poultry meat                                      | Aerobic germs at 30 ° C            | 5             | 2 | 5.10 <sub>6</sub>               | 5.10 <sub>7</sub> |
|  | Escherichia coli                   | 5             | 2 | 5.10 <sub>2</sub>               | 5.10 <sub>3</sub> |
|  | Coagulase staphylococci +          | 5             | 2 | 5.10 <sub>2</sub>               | 5.10 <sub>3</sub> |
|  | Campylobacter spp, thermotolerants | 5             | 0 | 10 <sub>2</sub>                 |                   |
|  | Salmonella                         | 5             | 0 | Absence in 25g                  |                   |
| Mechanically separated meat (MSM) (2)                    | Aerobic germs at 30 ° C            | 5             | 2 | 5.10 <sub>5</sub>               | 5.10 <sub>6</sub> |
|  | Escherichia coli                   | 5             | 2 | 50                              | 5.10 <sub>2</sub> |
|  | Salmonella                         | 5             | 0 | Absence in 10g                  |                   |

- (1) Sampling of whole carcasses is carried out on poultry, on either side of the breast bone (pectoral muscles and skin). On rabbits, the sample is taken on the thigh.
- (2) (2) These criteria apply to products using meat removed from bones, covered with meat after boning or poultry carcasses, by mechanical means resulting in the destruction or modification of the fibrous structure of muscles.

**4- Meat-based Deli products**

| Categories of foodstuffs              | Microorganisms / metabolites | Sampling plan |   | microbiological limits (ufc /g) |                   |
|---------------------------------------|------------------------------|---------------|---|---------------------------------|-------------------|
|                                       |                              | n             | c | m                               | M                 |
| Raw meats to be consumed cooked (1)   | Escherichia coli             | 5             | 2 | 5.10 <sub>2</sub>               | 5.10 <sub>3</sub> |
|                                       | Coagulase staphylococci +    | 5             | 2 | 5.10 <sub>2</sub>               | 5.10 <sub>3</sub> |
|                                       | Sulphito-reducing anaerobes  | 5             | 2 | 30                              | 3.10 <sub>2</sub> |
|                                       | Salmonella                   | 5             | 0 | Absence in 25g                  |                   |
| Cooked Deli not containing starch (1) | Aerobic germs at 30 ° C      | 5             | 2 | 10 <sub>6</sub>                 | 10 <sub>7</sub>   |
|                                       | Escherichia coli             | 5             | 2 | 10                              | 10 <sub>2</sub>   |
|                                       | Coagulase staphylococci +    | 5             | 2 | 10 <sub>2</sub>                 | 10 <sub>3</sub>   |
|                                       | Sulphito-reducing anaerobes  | 5             | 2 | 50                              | 5.10 <sub>2</sub> |
|                                       | Salmonella                   | 5             | 0 | Absence in 25g                  |                   |
|                                       | Listeria monocytogenes       | 5             | 0 | 100                             |                   |
| Cooked Deli with starch (1)           | Aerobic germs at 30 ° C      | 5             | 2 | 10 <sub>6</sub>                 | 10 <sub>7</sub>   |
|                                       | Escherichia coli             | 5             | 2 | 10                              | 10 <sub>2</sub>   |
|                                       | Coagulase staphylococci +    | 5             | 2 | 10 <sub>2</sub>                 | 10 <sub>3</sub>   |
|                                       | Sulphito-reducing anaerobes  | 5             | 2 | 50                              | 5.10 <sub>2</sub> |
|                                       | Bacillus cereus              | 5             | 2 | 10 <sub>2</sub>                 | 10 <sub>3</sub>   |
|                                       | Salmonella                   | 5             | 0 | Absence in 25g                  |                   |
|                                       | Listeria monocytogenes       | 5             | 0 | 100                             |                   |

(1) The covers are not included in the sample under analysis only if they are intended to be consumed.

**5- Fishery and aquaculture products**

| Categories of foodstuffs  | Microorganisms /<br>metabolites                             | Sampling<br>plan |   | microbiological limits (ufc /g) |                   |
|---|---|------------------|---|---------------------------------|-------------------|
|   |   | n                | c | m                               | M                 |
| Fishery and aquaculture products made from fish species associated with a large amount of histidine (1) (2)   | Histamine   | 9                | 2 | 100mg/kg                        | 200mg/kg          |
| Fishery and aquaculture products having undergone enzyme maturation treatment in the brine, made from fish species associated with a large amount of histidine with the exception of fish sauce (1) | Histamine   | 9                | 2 | 200mg/kg                        | 400mg/kg          |
| Fish sauce produced by fermentation of fishery and aquaculture products   | Histamine   | 1                | / | 400mg/kg                        |                   |
| Raw fish, cephalopods and molluscs (except live bivalve molluscs) (3)   | Aerobic germs at 30 ° C                                     | 5                | 2 | 10 <sub>6</sub>                 | 10 <sub>7</sub>   |
|   | Thermotolerant coliforms                                    | 5                | 2 | 10                              | 10 <sub>2</sub>   |
|   | Coagulase staphylococci +<br>Salmonella                     | 5                | 2 | 10 <sub>2</sub>                 | 10 <sub>3</sub>   |
|   | Salmonella  | 5                | 0 | Absence in 25g                  |                   |
| Live bivalve molluscs and echinoderms, live marine tunicates and gastropods (4) (5)   | Escherichia coli  | 5                | 1 | 230<br>NPP*/100g                | 700<br>NPP/ 100 g |
|   | Salmonella  | 5                | 0 | Absence in 25g                  |                   |
| Shelled raw shellfish   | Aerobic germs at 30 ° C                                     | 5                | 2 | 10 <sub>6</sub>                 | 10 <sub>7</sub>   |
|   | Thermotolerant coliforms                                    | 5                | 2 | 10                              | 10 <sub>2</sub>   |
|   | Coagulase staphylococci +<br>Sulphito-reducing<br>anaerobes | 5                | 2 | 10 <sub>2</sub>                 | 10 <sub>3</sub>   |
|   | Sulphito-reducing<br>anaerobes                              | 5                | 2 | 10                              | 10 <sub>2</sub>   |
|   | Salmonella  | 5                | 0 | Absence in 25g                  |                   |
| whole raw shellfish and raw echinoderms   | Aerobic germs at 30 ° C                                     | 5                | 2 | 10 <sub>6</sub>                 | 10 <sub>7</sub>   |
|   | Thermotolerant coliforms                                    | 5                | 2 | 10                              | 10 <sub>2</sub>   |
|   | Sulphito-reducing<br>anaerobes                              | 5                | 2 | 10                              | 10 <sub>2</sub>   |
|   | Salmonella  | 5                | 0 | Absence in 25g                  |                   |
| Cooked whole shellfish and cooked echinoderms   | Aerobic germs at 30 ° C                                     | 5                | 2 | 10 <sub>5</sub>                 | 10 <sub>6</sub>   |
|   | Thermotolerant coliforms                                    | 5                | 2 | 10                              | 10 <sub>2</sub>   |
|   | Salmonella  | 5                | 0 | Absence in 25g                  |                   |
|   | Listeria monocytogenes                                      | 5                | 0 | 100                             |                   |
| Hulled and shelled products of cooked crustaceans and molluscs  | Aerobic germs at 30 ° C                                     | 5                | 2 | 5.10 <sub>5</sub>               | 5.10 <sub>6</sub> |
|   | Escherichia coli  | 5                | 2 | 4                               | 40                |
|   | Coagulase staphylococci +<br>Salmonella                     | 5                | 2 | 10 <sub>2</sub>                 | 10 <sub>3</sub>   |
|   | Salmonella  | 5                | 0 | Absence in 25g                  |                   |
|   | Listeria monocytogenes                                      | 5                | 0 | 100                             |                   |

\* npp : nombre le plus probable.

**5- Fishery and aquaculture products (Continuing)**

| Categories of foodstuffs   | Microorganisms /<br>metabolites | Sampling plan |   | microbiological<br>limits (ufc/g or<br>ufc/ml) |       |
|--|---------------------------------|---------------|---|--|-------|
|  |                                 | n             | c | m  | M     |
| Fish and<br>other smoked, salted, pickled fishery and<br>aquaculture products ...                      | Aerobic germs at 30 ° C         | 5             | 2 | 106  | 10    |
|  | Thermotolerant coliforms        | 5             | 2 | 102  | 107   |
|  | Coagulase staphylococci +       | 5             | 2 | 102  | 103   |
|  | Salmonella                      | 5             | 0 | Absence in 25g                                 |       |
|  | Listeria monocytogenes          | 5             | 0 | 100  |       |
| Preparations of fish and other raw products<br>from fishery and aquaculture to be consumed<br>cooked   | Thermotolerant coliforms        | 5             | 2 | 5.103  | 50    |
|  | Coagulase staphylococci +       | 5             | 2 | 5.104  | 5.102 |
|  | Salmonella                      | 5             | 0 | Absence in 25g                                 |       |
| Preparations of fish and other products<br>of raw fisheries and aquaculture<br>to be consumed as it is | Thermotolerant coliforms        | 5             | 2 | 103  | 50    |
|  | Coagulase staphylococci +       | 5             | 2 | 102  | 104   |
|  | Bacillus cereus (6)             | 5             | 2 | 5.102  | 103   |
|  | Salmonella                      | 5             | 0 | Absence in 25g                                 |       |
|  | Listeria monocytogenes          | 5             | 0 | 100  |       |
| Deli made from cooked fishery and<br>aquaculture products to be consumed as they<br>are                | Aerobic germs at 30 ° C         | 5             | 2 | 106  | 10    |
|  | Thermotolerant coliforms        | 5             | 2 | 102  | 102   |
|  | Coagulase staphylococci +       | 5             | 2 | 107  | 102   |
|  | Bacillus cereus (6)             | 5             | 2 | 103  | 103   |
|  | Salmonella                      | 5             | 0 | Absence in 25g                                 |       |
|  | Listeria monocytogenes          | 5             | 0 | 100  |       |
| Shrimps, fish and dried echinoderms  | Thermotolerant coliforms        | 5             | 2 | 10   | 102   |
|  | Coagulase staphylococci +       | 5             | 2 | 50   | 102   |
|  | Sulphito-reducing<br>anaerobes  | 5             | 2 | 103  | 5.102 |
|  | Salmonella                      | 5             | 0 | Absence in 25g                                 |       |
|  | Listeria monocytogenes          | 5             | 0 | 100  |       |
| Deep-frozen or frozen shelled snails   | Sulphito-reducing<br>anaerobes  | 5             | 0 | 103  |       |
|  | Salmonella                      | 5             | 0 | Absence in 25g                                 |       |
|  | Listeria monocytogenes          | 5             | 0 | Absence in 25g                                 |       |

- (1) In particular the histidine-rich fish species of the families of Scombridae (tunas, bonito, mackerel), of Clupeidae (herring, sardines), of Engraulidae (anchovies), of Coryfenidae (mahi mahi), of Pomatomidae, of Scombrosidae.
- (2) The sampling is taken at the level of the flesh.
- (3) The sample is taken at the surface and at depth after the skin has been removed for the fish.
- (4) Sampling at the flesh and intra-valvar liquid.
- (5) Grouped sample comprising, at least, ten different animals.
- (6) This analysis is done if the preparation contains a starch.

**6- Animal and vegetable fats**

| Categories of foodstuffs              | Microorganisms /<br>metabolites | Sampling plan |   | microbiological<br>limits (ufc/g) |       |
|---------------------------------------|---------------------------------|---------------|---|-----------------------------------|-------|
|                                       |                                 | n             | c | m                                 | M     |
| Unmelted animal fat                   | Aerobic germs at 30 ° C         | 5             | 2 | 104                               | 10    |
|                                       | Escherichia coli                | 5             | 2 | 102                               | 105   |
|                                       | Coagulase staphylococci +       | 5             | 2 | 102                               | 103   |
|                                       | Salmonella                      | 5             | 0 | Absence in 25g                    |       |
| Melted animal fat                     | Aerobic germs at 30 ° C         | 5             | 2 | 5.102                             | 5.103 |
|                                       | Escherichia coli                | 5             | 0 | Absence                           |       |
|                                       | Coagulase staphylococci +       | 5             | 0 | Absence                           |       |
|                                       | Salmonella                      | 5             | 0 | Absence in 25g                    |       |
| Anhydrous Milk Fat (ADF)              | Aerobic germs at 30 ° C         | 5             | 2 | 5.102                             | 5.103 |
|                                       | Total coliforms                 | 5             | 0 | Absence                           |       |
|                                       | Coagulase staphylococci +       | 5             | 0 | Absence                           |       |
|                                       | Salmonella                      | 5             | 0 | Absence in 25g                    |       |
| S'men (Ghee)                          | Aerobic germs at 30 ° C         | 5             | 2 | 5.102                             | 5.103 |
|                                       | Total coliforms                 | 5             | 0 | Absence                           |       |
|                                       | Yeasts and molds                | 5             | 0 | Absence                           |       |
|                                       | Salmonella                      | 5             | 0 | Absence in 25g                    |       |
| Margarine<br>and other vegetable fats | Aerobic germs at 30 ° C         | 5             | 2 | 102                               | 10    |
|                                       | Yeasts and molds                | 5             | 2 | 4                                 | 10    |
|                                       | Escherichia coli                | 5             | 2 | 103                               | 102   |
|                                       | Coagulase staphylococci +       | 5             | 2 | 40                                | 102   |
|                                       | Salmonella                      | 5             | 0 | Absence in 25g                    |       |

### 7- Preserves and semi-perishable foodstuff

| Categories of foodstuffs   | Microorganisms /<br>metabolites | Sampling plan   |   | microbiological<br>limits (ufc/g) |     |
|--|---------------------------------|---|---|-----------------------------------|-----|
|  |                                 | n   | c | m                                 | M   |
| Pasteurized semi-preserved of animal origin (1)                                | Aerobic germs at 30 ° C         | 5   | 1 | 104                               | 105 |
|  | Total coliforms                 | 5   | 0 | Absence                           |     |
|  | Sulphito-reducing anaerobes     | 5   | 0 | Absence                           |     |
|  | Coagulase staphylococci +       | 5   | 0 | Absence                           |     |
|  | Salmonella                      | 5   | 0 | Absence in 25g                    |     |
| unpasteurized semi-preserved of animal origin (anchovies with salt or oil) (1) | Aerobic germs at 30 ° C         | 5   | 1 | 105                               | 106 |
|  | Total coliforms                 | 5   | 0 | Absence                           |     |
|  | Sulphito-reducing anaerobes (2) | 5   | 0 | Absence                           |     |
|  | Coagulase staphylococci +       | 5   | 0 | Absence                           |     |
|  | Salmonella                      | 5   | 0 | Absence in 25g                    |     |
| Semi-preserved of vegetable origin   | Aerobic germs at 30 ° C         | 5   | 2 | 104                               | 102 |
|  | Escherichia coli                | 5   | 2 | 102                               | 105 |
|  | Coagulase staphylococci +       | 5   | 2 | 103                               | 103 |
|  | Salmonella                      | 5   | 0 | Absence in 25g                    |     |
| Preserved (cans)   | Stability tests                 | Refer to the procedure provided by the regulations in force |   |                                   |     |

(1) Revivification initial suspension for two (2) hours at laboratory temperature for pasteurized semi-preserved and for 30 minutes to 45 minutes for unpasteurized semi-preserved.

(2) Special case of salt anchovies: Sulfite-reducing anaerobes: m = M = less than 10 cfu / g.

**8- Foods for infants and young children**

| Categories of foodstuffs   | Microorganisms /<br>metabolites | Sampling plan |   | microbiological<br>limits (ufc/g or<br>ufc/ml) |       |
|--|---------------------------------|---------------|---|--|-------|
|  |                                 | n             | c | m  | M     |
| Preparations for infants   | Aerobic germs at 30 ° C         | 5             | 2 | 103  | 102   |
|  | Yeasts and molds                | 5             | 2 | 50   | 104   |
|  | Bacillus cereus                 | 5             | 1 | 103  | 5.102 |
|  | Coagulase staphylococci +       | 5             | 0 | Absence  |       |
|  | Enterobacteriaceae              | 10            | 0 | Absence in 10g                                 |       |
|  | Cronobacter spp                 | 5             | 0 | Absence in 10g                                 |       |
|  | Salmonella                      | 5             | 0 | Absence in 25g                                 |       |
|  | Listeria monocytogenes          | 5             | 0 | Absence in 25g                                 |       |
| Preparation of suites destined<br>for infants and young children | Aerobic germs at 30 ° C         | 5             | 2 | 103  | 104   |
|  | Coagulase staphylococci +       | 5             | 0 | Absence  |       |
|  | Enterobacteriaceae              | 5             | 0 | Absence in 10g                                 |       |
|  | Salmonella                      | 5             | 0 | Absence in 25g                                 |       |
|  | Listeria monocytogenes          | 5             | 0 | Absence in 25g                                 |       |
| Foods for infants<br>more than six months and toddlers           | Aerobic germs at 30 ° C         | 5             | 2 | 103  | 104   |
|  | Bacillus cereus (1)             | 5             | 1 | 102  | 103   |
|  | Coagulase staphylococci +       | 5             | 0 | Absence  |       |
|  | Enterobacteriaceae              | 5             | 0 | 10   |       |
|  | Salmonella                      | 5             | 0 | Absence in 25g                                 |       |
|  | Listeria monocytogenes          | 5             | 0 | Absence in 25g                                 |       |
| Preparations requiring cooking<br>before consumption (2)         | Aerobic germs at 30 ° C         | 5             | 2 | 104  | 105   |
|  | Total coliforms                 | 5             | 2 | 102  | 103   |
|  | Yeasts and molds                | 5             | 2 | 102  | 103   |
|  | Coagulase staphylococci +       | 5             | 2 | 10   | 102   |
|  | Salmonella                      | 5             | 0 | Absence in 25g                                 |       |

(1) This criterion is sought only for processed cereal-based foods.

(2) "Cooking" means heating the product at a temperature of at least 100 ° C for a minimum of 3 minutes.

### 9- Cereals and derived products

| Categories of foodstuffs  | Microorganisms /<br>metabolites | Sampling plan |   | microbiological<br>limits (ufc/g) |                 |
|---|---------------------------------|---------------|---|-----------------------------------|-----------------|
|   |                                 | n             | c | m                                 | M               |
| Flour and semolina  | Escherichia coli                | 5             | 2 | 10                                | 10 <sup>2</sup> |
|   | Coagulase staphylococci +       | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
|   | Bacillus cereus                 | 5             | 2 | 10 <sup>3</sup>                   | 10 <sup>4</sup> |
|   | molds                           | 5             | 2 | 10 <sup>3</sup>                   | 10 <sup>4</sup> |
|   | Sulphito-reducing anaerobes     | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
| cereal grains intended for consumption as<br>such and not to the transformation             | molds                           | 5             | 2 | 10 <sup>3</sup>                   | 10 <sup>4</sup> |
|   | Sulphito-reducing anaerobes     | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
| Couscous and pasta  | molds                           | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
|   | Sulphito-reducing anaerobes     | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
| Pre-cooked dried pasta (diouls, ktaef,<br>rechta ...)                                       | Yeasts and molds                | 5             | 2 | 10 <sup>4</sup>                   | 10 <sup>5</sup> |
|   | Escherichia coli                | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
|   | Coagulase staphylococci +       | 5             | 2 | 10 <sup>3</sup>                   | 10 <sup>4</sup> |
|   | Salmonella                      | 5             | 0 | Absence in 25g                    |                 |
| Fresh pasta (plain or stuffed)  | Escherichia coli                | 5             | 2 | 10                                | 10 <sup>2</sup> |
|   | Coagulase staphylococci +       | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
|   | Sulphito-reducing anaerobes     | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
|   | Bacillus cereus                 | 5             | 2 | 10 <sup>3</sup>                   | 10 <sup>4</sup> |
|   | molds                           | 5             | 2 | 10 <sup>4</sup>                   | 10 <sup>5</sup> |
|   | Salmonella                      | 5             | 0 | Absence in 25g                    |                 |
| Biscuit products  | Aerobic germs at 30 ° C         | 5             | 2 | 10 <sup>3</sup>                   | 10 <sup>4</sup> |
|   | Escherichia coli                | 5             | 2 | 3                                 | 30              |
|   | molds                           | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
|   | Coagulase staphylococci +       | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
|   | Salmonella (1)                  | 5             | 0 | Absence in 25g                    |                 |
| Other products derived from cooked<br>cereals (m'semen, baghrir, any type of<br>breads ...) | Aerobic germs at 30 ° C         | 5             | 2 | 10 <sup>3</sup>                   | 10 <sup>4</sup> |
|   | Escherichia coli                | 5             | 2 | 3                                 | 30              |
|   | molds                           | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
|   | Coagulase staphylococci +       | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
|   | Salmonella (1)                  | 5             | 0 | Absence in 25g                    |                 |

(1) Search for Salmonella only in cereal derivatives containing eggs.

### 10- Ready meals

| Categories of foodstuffs                                       | Microorganisms /<br>metabolites | Sampling plan |   | microbiological<br>limits (ufc/g) |                   |
|--|---------------------------------|---------------|---|-----------------------------------|-------------------|
|  |                                 | n             | c | m                                 | M                 |
| prepared dishes of which all the ingredients are cooked        | Aerobic germs at 30 ° C         | 5             | 2 | 3.10 <sup>5</sup>                 | 3.10 <sup>6</sup> |
|  | Escherichia coli                | 5             | 2 | 10                                | 10 <sup>2</sup>   |
|  | Coagulase staphylococci +       | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup>   |
|  | Sulphito-reducing anaerobes     | 5             | 2 | 50                                | 5.10 <sup>2</sup> |
|  | Bacillus cereus (1)             | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup>   |
|  | Salmonella                      | 5             | 0 | Absence in 25g                    |                   |
| Prepared dishes of which at least one ingredient is not cooked | Aerobic germs at 30 ° C         | 5             | 2 | 10 <sup>6</sup>                   | 10 <sup>7</sup>   |
|  | Escherichia coli                | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup>   |
|  | Coagulase staphylococci +       | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup>   |
|  | Sulphito-reducing anaerobes     | 5             | 2 | 50                                | 5.10 <sup>2</sup> |
|  | Bacillus cereus (1)             | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup>   |
|  | Salmonella                      | 5             | 0 | Absence in 25g                    |                   |
|  | Listeria monocytogenes          | 5             | 0 | 100                               |                   |
| Sandwichs  | Escherichia coli                | 5             | 2 | 10                                | 10 <sup>2</sup>   |
|  | Coagulase staphylococci +       | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup>   |
|  | Sulphito-reducing anaerobes     | 5             | 2 | 50                                | 5.10 <sup>2</sup> |
|  | Salmonella                      | 5             | 0 | Absence in 25g                    |                   |

(1) This analysis is carried out in the case where the preparation contains a starch.

**11- Waters, drinks and fruit and vegetable juices**

| Categories of foodstuffs   | Microorganisms /<br>metabolites       | Sampling plan |   | microbiological limits<br>(ufc/g) |                 |
|--|---------------------------------------|---------------|---|-----------------------------------|-----------------|
|  |                                       | n             | c | m                                 | M               |
| Natural mineral waters<br>and spring waters                          | Escherichia coli                      | 5             | 0 | Absence in 250 ml                 |                 |
|  | enterococci                           | 5             | 0 | Absence in 250 ml                 |                 |
|  | Sulphito-reducing anaerobic<br>spores | 5             | 0 | Absence in 50 ml                  |                 |
|  | Total coliforms                       | 5             | 0 | Absence in 250 ml                 |                 |
|  | Pseudomonas aeruginosa                | 5             | 0 | Absence in 250 ml                 |                 |
| Soft drinks  | Aerobic germs at 30 ° C               | 5             | 3 | 10                                | 10 <sub>2</sub> |
|  | Yeasts and molds                      | 5             | 2 | 10                                | 10 <sub>2</sub> |
| heat treated non-carbonated<br>beverages                             | Total coliforms                       | 5             | 0 | 10                                |                 |
|  | Thermotolerant coliforms              | 5             | 0 | Absence                           |                 |
|  | enterococci                           | 5             | 0 | Absence                           |                 |
|  | Sulphito-reducing anaerobes           | 5             | 0 | Absence in 20 ml                  |                 |
|  | Yeasts and molds                      | 5             | 2 | 10                                | 10 <sub>2</sub> |
| Beverages based on fruit juice<br>and milk                           | Aerobic germs at 30 ° C               | 5             | 2 | 10 <sub>2</sub>                   | 10 <sub>3</sub> |
|  | Coagulase staphylococci +             | 5             | 2 | 1                                 | 10              |
|  | Enterobacteriaceae                    | 5             | 2 | 1                                 | 10              |
|  | Yeasts and molds                      | 5             | 2 | 10                                | 10 <sub>2</sub> |
|  | Salmonella                            | 5             | 0 | Absence in 25 ml                  |                 |
| Unpasteurized fruit and vegetable<br>juices                          | Escherichia coli                      | 5             | 2 | 10 <sub>2</sub>                   | 10 <sub>3</sub> |
|  | Yeasts and molds                      | 5             | 2 | 10 <sub>4</sub>                   | 10 <sub>5</sub> |
|  | Salmonella                            | 5             | 0 | Absence in 25 ml                  |                 |
| Fruit and vegetable juices, nectars and<br>pasteurized fruity drinks | Yeasts and molds                      | 5             | 2 | 10                                | 10 <sub>2</sub> |

**12- Vegetables, fruits, vegetables and plant-based products**

| Categories of foodstuffs                   | Microorganisms /<br>metabolites | Sampling plan |   | microbiological limits<br>(ufc/g) |                   |
|--|---------------------------------|---------------|---|-----------------------------------|-------------------|
|  |                                 | n             | c | m                                 | M                 |
| Fresh fruits and vegetables                | Escherichia coli                | 5             | 2 | 10                                | 10 <sup>2</sup>   |
| Ready-to-use fruits and vegetables (1)     | Aerobic germs at 30 ° C         | 5             | 2 | 5.10 <sup>6</sup>                 | 5.10 <sup>7</sup> |
|  | Lactic flora                    | 5             | 2 | 5.10 <sup>5</sup>                 | 5.10 <sup>6</sup> |
|  | Escherichia coli                | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup>   |
|  | Salmonella                      | 5             | 0 | Absence in 25g                    |                   |
|  | Listeria monocytogenes          | 5             | 0 | 100                               |                   |
| Spices, spice mix and dried aromatic herbs | Escherichia coli                | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup>   |
|  | Sulphito-reducing anaerobes     | 5             | 2 | 10 <sup>3</sup>                   | 10 <sup>4</sup>   |
|  | Yeasts and molds                | 5             | 2 | 10 <sup>4</sup>                   | 10 <sup>5</sup>   |
|  | Coagulase staphylococci +       | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup>   |
|  | Bacillus cereus (2)             | 5             | 2 | 10 <sup>3</sup>                   | 10 <sup>4</sup>   |
|  | Salmonella                      | 5             | 0 | Absence in 25g                    |                   |
| Dried herbs (teas, chamomiles)             | Aerobic germs at 30 ° C         | 5             | 2 | 10 <sup>4</sup>                   | 10 <sup>5</sup>   |
|  | Thermotolerant coliforms        | 5             | 2 | 10                                | 10 <sup>2</sup>   |
|  | molds                           | 5             | 2 | 10 <sup>3</sup>                   | 10 <sup>4</sup>   |
|  | Sulphito-reducing anaerobes     | 5             | 2 | 10                                | 10 <sup>2</sup>   |
|  | Salmonella                      | 5             | 0 | Absence in 25g                    |                   |
| Fresh aromatic herbs                       | Aerobic germs at 30 ° C         | 5             | 2 | 5.10 <sup>6</sup>                 | 5.10 <sup>7</sup> |
|  | Escherichia coli                | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup>   |
|  | Sulphito-reducing anaerobes     | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup>   |
|  | Coagulase staphylococci +       | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup>   |
|  | Salmonella                      | 5             | 0 | Absence in 25g                    |                   |

**12- Vegetables, fruits, vegetables and plant-based products (Continuing)**

| Categories of foodstuffs                              | Microorganisms /<br>metabolites   | Sampling plan |   | microbiological limits<br>(ufc/g) |                 |
|---|---|---------------|---|-----------------------------------|-----------------|
|   |   | n             | c | m                                 | M               |
| Sprouted seeds ready to be consumed                   | Escherichia coli  | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
|   | Bacillus cereus   | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
|   | Salmonella  | 5             | 0 | Absence in 25g                    |                 |
|   | Listeria monocytogenes  | 5             | 0 | 100                               |                 |
| Germ (3)  | Escherichia coli producers of<br>shiga-toxins (STEC) 0157,026,<br>0111, 0103, 0145 and 0104: H4 | 5             | 0 | Absence in 25g                    |                 |
| Dried fruits (figs, dates, prunes, raisins<br>...)    | Escherichia coli  | 5             | 2 | 10                                | 10 <sup>2</sup> |
|   | molds   | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
|   | Salmonella  | 5             | 0 | Absence in 25g                    |                 |
| Oil seeds<br>(Walnuts, almonds, peanuts ...)          | Escherichia coli  | 5             | 2 | 2                                 | 20              |
|   | molds   | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
|   | Salmonella  | 5             | 0 | Absence in 25g                    |                 |
| Coffee and derivatives                                | Total coliforms   | 5             | 1 | 10                                | 10 <sup>2</sup> |
|   | Yeasts and molds  | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
| fresh fruit mixture preparations (fruit<br>salad ...) | Yeasts and molds  | 5             | 2 | 10 <sup>4</sup>                   | 10 <sup>5</sup> |
|   | Escherichia coli  | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
|   | Coagulase staphylococci +   | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
|   | Salmonella  | 5             | 0 | Absence in 25g                    |                 |

- (1) Fruits and vegetables washed, peeled, drained, cut, grated, packaged under modified atmosphere or not.
- (2) Bacillus cereus are only wanted for spices and spice blends.
- (3) Excluding germs that have undergone effective heat treatment to eliminate salmonella spp and STEC.

**13- Pastries and egg products**

| Categories of foodstuffs   | Microorganisms /<br>metabolites    | Sampling plan |   | microbiological limits<br>(ufc/g or ufc/ml) |                   |
|--|------------------------------------|---------------|---|---|-------------------|
|  |                                    | n             | c | m   | M                 |
| Egg in shell   | Salmonella (1)                     | 5             | 0 | Absence in 25g                              |                   |
| pasteurized liquid eggs, egg and<br>albumen powder, other processed eggs | Aerobic germs at 30 ° C            | 5             | 2 | 5.10 <sup>4</sup>                           | 5.10 <sup>5</sup> |
|  | Total coliforms                    | 5             | 0 | 10 <sup>2</sup>                             |                   |
|  | Yeasts and molds (2)               | 5             | 0 | 10 <sup>2</sup>                             |                   |
|  | Salmonella                         | 5             | 0 | Absence in 25 g                             |                   |
| Preparations for cakes containing eggs                                   | Coagulase staphylococci +<br>molds | 5             | 2 | 10 <sup>2</sup>                             | 10 <sup>3</sup>   |
|  | Salmonella                         | 5             | 0 | Absence in 25 g                             |                   |
|  | Aerobic germs at 30 ° C            | 5             | 2 | 10 <sup>5</sup>                             | 10 <sup>6</sup>   |
| Pastries with cream,<br>creams, fruit mousse, tiramisu...                | Escherichia coli                   | 5             | 2 | 10  | 10 <sup>2</sup>   |
|  | Sulphito-reducing anaerobes        | 5             | 2 | 10  | 10 <sup>2</sup>   |
|  | Coagulase staphylococci +          | 5             | 2 | 10 <sup>2</sup>                             | 10 <sup>3</sup>   |
|  | Salmonella                         | 5             | 0 | Absence in 25 g                             |                   |
|  | Listeria monocytogenes             | 5             | 0 | 100   |                   |
|  | Aerobic germs at 30 ° C            | 5             | 2 | 10 <sup>5</sup>                             | 10 <sup>6</sup>   |
| Any other egg product having<br>undergone heat treatment                 | Coagulase staphylococci +          | 5             | 0 | Absence                                     |                   |
|  | Enterobacteriaceae                 | 5             | 2 | 10  | 10 <sup>2</sup>   |
|  | Salmonella...                      | 5             | 0 | Absence in 25 g                             |                   |

- (1) Salmonella should be detected, neither inside, nor outside the egg in shell.  
 (2) Applies to egg powder only.

**14 – Confectionery**

| Categories of foodstuffs  | Microorganisms /<br>metabolites | Sampling plan |   | microbiological limits<br>(ufc/g) |                 |
|---|---------------------------------|---------------|---|-----------------------------------|-----------------|
|   |                                 | n             | c | m                                 | M               |
| Chocolate, vegecao and derived products                                     | Aerobic germs at 30 ° C         | 5             | 2 | 10 <sup>3</sup>                   | 10 <sup>4</sup> |
|   | Enterobacteriaceae              | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
|   | Yeasts and molds                | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
|   | Coagulase staphylococci +       | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
|   | Salmonella                      | 5             | 0 | Absence in 25 g                   |                 |
|   | Listeria monocytogenes          | 5             | 0 | 100                               |                 |
| Cocoa powder  | Aerobic germs at 30 ° C         | 5             | 2 | 10 <sup>5</sup>                   | 10 <sup>6</sup> |
|   | Enterobacteriaceae              | 5             | 2 | 10                                | 10 <sup>2</sup> |
|   | Coagulase staphylococci +       | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
|   | Yeasts                          | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
|   | Molds                           | 5             | 2 | 10 <sup>3</sup>                   | 10 <sup>4</sup> |
|   | Salmonella                      | 5             | 0 | Absence in 25 g                   |                 |
| Other confectionary products<br>(caramels, sweets, nougats,<br>halkouma...) | Aerobic germs at 30 ° C         | 5             | 2 | 10 <sup>5</sup>                   | 10 <sup>6</sup> |
|   | Total coliforms                 | 5             | 2 | 2                                 | 10 <sup>2</sup> |
|   | molds                           | 5             | 2 | 10                                | 10 <sup>2</sup> |
|   | Salmonella                      | 5             | 0 | Absence in 25 g                   |                 |

**15- Other foodstuffs**

| Categories of foodstuffs                           | Microorganisms /<br>metabolites | Sampling plan |   | microbiological limits<br>(ufc/g) |                   |
|--|---------------------------------|---------------|---|-----------------------------------|-------------------|
|  |                                 | n             | c | m                                 | M                 |
| Powder aromas and additives                        | Aerobic germs at 30 ° C         | 1             | - | 10 <sup>4</sup>                   |                   |
|  | Total coliforms                 | 1             | - | 10 <sup>2</sup>                   |                   |
|  | Escherichia coli                | 1             | - | 10                                |                   |
|  | Yeasts and molds                | 1             | - | 10 <sup>3</sup>                   |                   |
|  | Coagulase staphylococci +       | 5             | 2 | 10                                | 10 <sup>2</sup>   |
|  | Salmonella                      | 5             | 0 | Absence in 25 g                   |                   |
| flavored ice creams and sorbets                    | Aerobic germs at 30 ° C         | 5             | 2 | 10 <sup>3</sup>                   | 10 <sup>4</sup>   |
|  | Total coliforms                 | 5             | 0 | 3                                 |                   |
|  | Yeasts and molds                | 5             | 0 | 10 <sup>2</sup>                   |                   |
|  | Salmonella                      | 5             | 0 | Absence in 25 g                   |                   |
| Dehydrated soups                                   | Aerobic germs at 30 ° C         | 5             | 2 | 3.10 <sup>5</sup>                 | 3.10 <sup>6</sup> |
|  | Escherichia coli                | 5             | 2 | 10                                | 10 <sup>2</sup>   |
|  | Sulphito-reducing anaerobes     | 5             | 2 | 30                                | 3.10 <sup>2</sup> |
|  | Coagulase staphylococci +       | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup>   |
|  | Bacillus cereus                 | 5             | 2 | 10 <sup>3</sup>                   | 10 <sup>4</sup>   |
|  | Salmonella                      | 5             | 0 | Absence in 25 g                   |                   |
| Yeasts (dry and fresh)                             | Germes aérobies à 30 ° C        | 5             | 2 | 10 <sup>5</sup>                   | 10 <sup>6</sup>   |
|  | Coliformes totaux               | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup>   |
|  | Escherichia coli                | 5             | 2 | 3                                 | 30                |
|  | Salmonella                      | 5             | 0 | Absence in 25 g                   |                   |
| Sugars intended for human consumption and industry | Aerobic germs at 30 ° C         | 5             | 2 | 20                                | 2.10 <sup>2</sup> |
|  | Sulphito-reducing anaerobes     | 5             | 2 | 1                                 | 10                |
|  | Yeasts and molds                | 5             | 2 | 1                                 | 10                |
|  | Acidifying germs                | 5             | 2 | 5                                 | 50                |
| Gelatin  | Aerobic germs at 30 ° C         | 5             | 2 | 10 <sup>4</sup>                   | 10 <sup>5</sup>   |
|  | Thermotolerant coliforms        | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup>   |
|  | Sulphito-reducing anaerobes     | 5             | 2 | 10                                | 10 <sup>2</sup>   |
|  | Coagulase staphylococci +       | 5             | 0 | Absence                           |                   |
|  | Salmonella                      | 5             | 0 | Absence in 25 g                   |                   |

**15- Other foodstuffs (continued)**

| Categories of foodstuffs                            | Microorganisms /<br>metabolites | Sampling plan |   | microbiological limits<br>(ufc/g) |                 |
|---|---------------------------------|---------------|---|-----------------------------------|-----------------|
|   |                                 | n             | c | m                                 | M               |
| Unstabilized Mayonnaise                             | Aerobic germs at 30 ° C         | 5             | 2 | 10 <sup>4</sup>                   | 10 <sup>5</sup> |
|   | Yeasts and molds                | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
|   | Escherichia coli                | 5             | 2 | 10                                | 10 <sup>2</sup> |
|   | Coagulase staphylococci +       | 5             | 2 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
|   | Salmonella                      | 5             | 0 | Absence in 25 g                   |                 |
| stabilized mayonnaise and other<br>condiment sauces | Yeasts and molds                | 5             | 2 | 10                                | 10 <sup>2</sup> |
|   | Escherichia coli                | 5             | 2 | 4                                 | 40              |
|   | Coagulase staphylococci +       | 5             | 2 | 10                                | 10 <sup>2</sup> |
|   | Salmonella                      | 5             | 0 | Absence in 25 g                   |                 |
| Honey   | Yeasts and molds                | 5             | 1 | 10 <sup>2</sup>                   | 10 <sup>3</sup> |
| Vinegar   | Aerobic germs at 30 ° C         | 5             | 1 | 30                                | 10 <sup>2</sup> |

**ANNEX II**

**test taking technique and interpretation  
of microbiological test results:**

**I-Test taking technique:**

- For a food of the same kind, the sample must be divided into at least five (5) units from the same batch.
- The laboratory must have about 500g of product, ie 5 times 100g. These 100g can be provided by one or more pieces. These samples must respect the rules of asepsis and the rules of representativeness.
- For canned foods, the sample must be divided into at least six (6) units from the same batch.
- Test Taking for the preparation of the initial suspension and decimal dilutions is about:
  - superficial and deep parts, especially for sliced and chopped products and ready-made meals;
  - the deep part after cauterization of the product surface, especially for meats (parts), poultry (parts), meat products (parts) and whole fish;
  - the homogenized product or on the superficial and deep parts, depending on the nature of the liquid or semi-liquid product, especially dairy products.

- In the case of microbiological examinations carried out following food poisoning, it is necessary to search for pathogens, toxinogens and / or their toxins, both on the surface and at depth.

**II. interpretation of microbiological test results:**

**1. Interpretation according to a three-class plan:**

The interpretation of the results is carried out according to a three class-plan, if the value "c" is different from zero (0).

The results are expressed as follows

- if the result of the analysis is less than or equal to "m", the result of the microbiological criterion is satisfactory;
- if the result of the analysis does not exceed "M" and the number of units in the sample giving a result greater than "m" and between "1" and "c", the result of microbiological criterion is acceptable;
- If the result of the analysis exceeds "M" or if the number of units in the sample giving a result between "m" and "M" is greater than "c", the result of the microbiological criterion is not satisfactory.

❖ Special case for histamine in fishery and aquaculture products from fish species associated with a large amount of histidine, except fish sauce produced by fermentation of fishery and aquaculture products.

The results are expressed as follows:

- The result of the microbiological criterion is satisfactory when the following requirements are met:
  - the observed average value is less than or equal to "m";
  - a maximum of c / n values observed are between "m" and "M";
  - no observed value exceeds the "M" limit.
- The result of the microbiological criterion is unsatisfactory when the observed average value exceeds "m", when more than c / n values are between "m" and "M" or when one or more observed values are greater than "M" ;

**2. Interpretation according to a two-class plan:**

The interpretation of the results is done according to a two class plan, if the value "c" is equal to zero (0).

The results are expressed as follows :

- For the expression "absence in":
  - the result of the microbiological criterion is satisfactory when there is absence of the microorganism in all the units of the sample;
  - The result of the microbiological criterion is unsatisfactory when the presence of the microorganism is detected in at least one unit of the sample. In the case of the following microorganisms: *Listeria monocytogenes*, *Salmonella*, *Campylobacter* spp (thermotolerants), the result reveals that the controlled batch is unfit for consumption.

- For the limit value "m = M":

If the result of the analysis is less than or equal to "m", the result of the microbiological criterion is satisfactory;

If the result of the analysis exceeds "m", the result of the microbiological criterion is unsatisfactory. In the case of *Listeria monocytogenes*, the result reveals that the controlled batch is unfit for consumption.

**3. Special case:**

The sample is considered toxic if the limit is greater than or equal to  $10_5$  for bacteria: sulphite-reducing anaerobes, coagulase-plus staphylococci and *Bacillus cereus*.

**III. Evaluation of the microbiological quality of the controlled batch:**

The results of the microbiological analyses demonstrate the microbiological quality of the batch:

- Satisfactory quality, if the results of all microbiological criteria are satisfactory;
- Unsatisfactory quality if at least one result on a microbiological criterion is unsatisfactory;
- Acceptable quality if, at a minimum, a result on one of the criteria is acceptable, no result being otherwise unsatisfactory;
- The batch is considered toxic if the limit is greater than or equal to  $10_5$  to bacteria: Anaerobic sulphite-reducing, *Staphylococcus coagulase* and *Bacillus cereus*.