(updated)
REGULATIONS GOVERNING MICROBIOLOGAL STANDARDS FOR FOODSTUFFS AND RELATED MATTERS

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The Minister of Health has, in terms of section 15(1) of the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972), made the regulations in the Schedule.

SCHEDULE

Definitions

1. In these regulations any expression to which a meaning has been assigned in the Act shall bear such meaning and, unless the context otherwise indicates -

"Annex" means an annex to these regulations;

"bottled water" means any water other than natural mineral water prepacked in a container made from glass, a plastic material, tin plate or other suitable material which is capable of being sealed with a closure;

"coconut" means the fruit of the coconut palm in *Cocus nucifera*;

"edible gelatin" means clean, wholesome protein obtainable by extraction from collagenous material;

"edible ices" means the sweetened product obtained either from an emulsion of fat and protein with the addition of other ingredients and substances or from a mixture of water, sugars and other ingredients and substances which have been treated by freezing and are intended for storage, sale and human consumption in the frozen or partially frozen state;

"egg product" means the product from the contents of an egg of the species *Gallus domesticus*: Provided that such an egg, the yolk thereof, the albumen thereof or a mixture of the yolk and albumen of such an egg in liquid, frozen or dried form has not been subjected to an incubation process;

"honeybush tea" means the product obtained from the leaves, flowers and stems of the *Cyclopia* genus;

"natural mineral water" means water which contains certain mineral salts in various proportions and which is characterized by the presence of trace elements and other substances such as calcium, magnesium, sodium and potassium and is obtained directly from natural or drilled sources from underground waterbearing strata;

"poultry" means any chicken, duck, goose, guinea fowl, ostrich, partridge, pheasant pigeon, quail, turkey, and the chicks thereof;

"rooibos tea" means the product obtained from the needle-like leaves and fine stems of the plant *Aspalathus linearis*;

"spices and dried aromatic plants" means natural dried components or mixtures of spices and aromatic plants used in foodstuffs for flavouring , seasoning and imparting aroma, and includes the whole, broken or ground form;

"sugars" means dextrose, dextrose syrup, fructose, fructose syrup, glucose, glucose syrup, invert sugar, lactose, maltose, maltose syrup, sucrose and xylose; and

"the Act" means the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972).

Microbiological specifications

2. The analysis or examination of a foodstuff referred to in these regulations for determining the presence of bacteria or other micro-organisms listed in column 1 of Annex A shall take place in accordance with the method listed opposite thereto in column 2 of the said Annex

3. Desicated coconut shall not contain any pathogenic organisms of the genera *Salmonella* and *Shigella* nor any coagulase-positive *Staphylococcus aureus* per gram.

4. Sugars that are used for the canning of vegetables or other products liable to thermophilic spoilage shall comply with the following bacteriological standards:
   (a) The total number of thermophilic organisms shall not exceed 100 per 10 grams of sugar;
   (b) *Escherichia coli* shall be absent in 20 grams of sugar;
   (c) *Clostridium* species shall be absent in 20 grams of sugar; and
   (d) The total number of sulphide spoilage shall not exceed 10 per 100 grams of sugar.

5. Edible gelatin shall comply with the following microbiological specifications:
   (a) The total bacteriological count shall not be greater than 1 000 per gram when gelatin is tested according to SABS method 756, modified by using an incubation temperature of 37°C;
   (b) *Escherichia coli* shall be absent in 0,1 gram;
   (c) *Clostridium* species shall be absent in 0,1 gram when gelatin is tested according to SABS method 762, modified by adding sodium sulphite and ferric citrate to the reinforced clostridial agar and the formation of black colonies shall indicate the presence of *Clostridium* bacteria; and
   (d) *Salmonella* species shall be absent in 1 gram.

6. (1) In the case of partly cooked or uncooked sea-water and freshwater foods such as prawns, shrimps, crayfish, lobsters, crab meat, oysters, mussels, clams, eels or fish-

(a) a histamine content of more than 10 mg per 100 grams of the foodstuffs, when tested according to AOAC (Association of Official Analytical Chemists) method 977.13 (1990), shall indicate decomposition of the foodstuff, and more than 20 mg per 100 grams shall render the foodstuff unsafe for human consumption;

(b) no antibiotics shall be present;

(c) no organisms of the genera *Salmonella* and *Shigella* and no species of *Vibrio cholerae* and *V.parahaemolyticus* shall be present in 20 grams;

(d) no coagulase-positive *Staphylococcus aureus* shall be present in 20 grams-

(e) (i) except in the case of oysters, mussels and clams, the number of *Escherichia coli* Type 1 organisms shall not exceed 10 per 100 grams; and

(ii) in the case of oysters, mussels or clams, the number of *Escherichia coli* Type 1 shall not exceed 500 per 100 gram; and

(f) the total colony count for organisms shall not exceed 1 million per gram when such foodstuff is tested by the pour-plate method on plate count agar at 30°C for 72 hours and, in the case of oysters, mussels or clams, the total colony count shall not apply.

(2) In the case of cooked sea-water and freshwater foods such as prawns, shrimps, crayfish, lobsters, crab meat, oysters, mussels, clams, eels or fish -

(a) a histamine content of more than 10 mg per 100 grams of the foodstuff, when tested according to AOAC (Association of Official Analytical Chemists) method 977.13 (1990), shall indicate decomposition of the foodstuff, and more than 20 mg per 100 grams shall render the foodstuff unsafe for human consumption;

(b) no antibiotics shall be present;

(c) no organisms of the genera *Salmonella* and *Shigella* and no species of *Escherichia coli* Type 1, *Vibrio cholerae* and *V.parahaemolyticus* shall be present in 20 grams;

(d) no coagulase-positive *Staphylococcus aureus* shall be present in 20 grams;

(e) the number of coliform organisms other than *Escherichia coli* Type 1 shall not exceed 1 000 per 100 grams; and

(f) the total colony count of organisms shall not exceed 100 000 per gram when such a foodstuff is tested by the pour-plate method on plate-count agar at 30°C for 72 hours.

7. No person shall sell cooked poultry -

(a) which contains the following:

(i) Antibiotics and other antimicrobial substances in amounts that exceed the maximum levels determined in the regulations governing maximum limits for veterinary medicine and stock remedy residues that may be present in foodstuffs, published by Government Notice No. R. 1809 of 3 July 1992;

(ii) Organisms of the genera *Salmonella*, *Shigella* and *Escherichia coli* in 20 grams

(iii) *Staphylococcus aureus* in 20 grams;

(iv) *Clostridium perfringens* in 20 grams; and

(b) of which the total colony count of organisms exceeds 10 000 per gram when such foodstuff is tested by the pour-plate method on plate-count agar at 30°C for 72 hours.

8. In the case of natural mineral water or bottled water which is sold as a foodstuff -
   (a) it shall be free from -
      (i) parasites and pathogenic organisms which may render such product unfit for human consumption;
      (ii) *Escherichia coli* and other coliforms, and faecal streptococci in a sample of 250 millilitres;
      (iii) *Clostridium* species in a sample of 50 millilitres; and
      (iv) *Pseudomonas aeruginosa* in a sample of 250 millilitres;
   (b) when tested in accordance with SABS method 221, the total viable colony count shall not exceed 100 colony forming units per milliliter. The total viable colony count shall be measured within 24 hours after bottling, the water being maintained at 4ºC ± 3ºC during this period. Thereafter, up to and including the point of sale, the total viable colony count shall be no more than that which results from the normal increase in the bacterial content that the water had at source.

9. Dried species ad aromatic plants (including but not exclusively those listed in Annex B) or a mixture thereof, with or without the addition of other foodstuffs, which are sold to the consumer or to the food industry shall be deemed to be contaminated, impure, decayed or harmful or injurious to human health if any such product contains -
   (a) the following bacteria in a sample of 20 grams of the product:
      (i) *Bacillus cereus*;
      (ii) *Clostridium perfringens*;
      (iii) *Escherichia coli*;
      (iv) *Staphylococcus aureus*; and
   (b) more than the following amounts of micro-organisms in 1 gram of the product:
      (i) Total aerobic bacteria: 10^6 per gram of the product;
      (ii) yeasts and moulds: 10^4 per gram of the product; and
      (iii) coliforms: 10^3 gram of the product.
   (c) bacteria of the *Salmonella* species in a sample of 25 grams of the product.

10. In the case of edible ices -
   (a) it shall be free from -
      (i) pathogenic organisms; and
      (ii) *Escherichia coli* Type 1 in 0,1 ml;
   (b) the total colony count of organisms shall not exceed 50 000 per milliliter.

11. An egg product after pasteurization or irradiation shall comply with the following microbiological specifications:
   (a) *Salmonella* organisms shall be absent in 25 ml or g of an egg product;
   (b) *Staphylococcus aureus* shall be absent in 1 ml or g of an egg product;
   (c) mesophilic aerobic bacteria shall not exceed 20 000 colony forming units per gram or milliliter;
   (d) coliforms shall not exceed 50 per gram or milliliter of an egg product; and
   (e) yeast and moulds shall not exceed 200 per gram or milliliter of an egg product.

12. Rooibos tea at the point of sale shall comply with the following microbiological specifications:
    (a) for rooibos tea in bulk, the total viable colony count shall not exceed 75 000 colony forming units per gram;
    (b) for rooibos rea packed in retail packaging, the total viable colony count shall not exceed 150 000 colony forming units per gram;
    (c) *Escherichia coli* shall not exceed 20 colony forming units per gram; an
    (d) Salmonella organisms shall be absent in a sample of 25 grams of the product.

13. Honeybush tea at the point of sale shall comply with the following microbiological specifications:
    (a) the total viable colony count shall not exceed 75 000 colony forming units per gram;
    (b) *Escherichia coli* shall be absent in a sample of 1 gram of the product; and
    (c) *Salmonella* organisms shall be absent in a sample of 25 grams of the product.

Repeal

14. The following regulations are hereby repealed:
    (a) Regulation 11 of the regulations regarding ice cream promulgated in terms of the repealed Foods, Drugs and Disinfectants Act, 1929 (Act No. 13 of 1929), as published by Government Notice No. 2518 o 10 December 1954 and amended by Government Notices Nos. 515 of 14 April 1967, 850 of 16 June 1967 and 1484 of 25 August 1972, in so far as it relates to microbiological standards;
    (b) regulations 21*bis* of the regulations regarding desiccated coconut promulgated in terms of the repealed Foods, Drugs and Disinfectants Act, 1929 (Act No. 13 of 1929), as published by Government Notice No. 1291 of 25 August 1967;
    (c) regulation 7(1)(e) of the regulations regarding food, drugs and disinfectants in terms of the repealed Foods, Drugs and Disinfectants Act, 1929 (Act No. 13 of 1929), as published by Government Notice No. 575 of 28 March 1930 and amended by Government Notice No. 739 of 29 May 1935, substituted by Government Notice No. 2401 of 26 November 1954 and amended by Government Notices. 837 of 7 June 1957, 1913 of 6 December 1957 and 418 of 19 March 1971;
    (d) regulation 39*bis* (1), (4), (5) and (6) of the regulation regarding edible gelatine promulgated in terms of the repealed Foods, Drugs and Disinfectants Act, 1929 (Act No. 13 of 1929), as published by Government Notice No. 941 of 8 May 1953 and amended by Government Notice No. 837 of 7 June 1957;
    (e) subregulations (3)(a) to (g), (4)(a) to (g) and (5) of the regulations regarding marine food promulgated in terms of the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972), as published by Government Notice No. R. 2064 of 2 November 1073;
    (f) the regulations governing the microbiological standards for cooked poultry promulgated in terms of the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972), as published by Government Notice No. R. 106 of 18 January 1985; and
    (g) the regulations relating to herbs and spices promulgated in terms of the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972), a published by Government Notice No. R. 1468 of 13 August 1993.

ANNEXURE A
MICROBIOLOGICAL METODS

COLUMN 1	COLUMN 2
Micro-organisms	**Standard test methods**
Bacillus cereus……..	ISO Test Method 7932*
Viable *Clostridium perfringens*……..	ISO Test Method 7937
Coliforms ……..	SABS Method 757
Escherichia coli ……..	SABS Method 758**
Viable *Salmonella* ……..	SABS Method 759
Total plate count (total aerobic bacteria)……..	SABS Method 756
Staphylococcus aureus ……..	SABS Method 760
Shigella ……..	SABS Method 1195
Vibrio cholerae ……..	SABS Method 1196
Faecal streptococci……..	ISO Method 7899
Yeast and mould count ……..	ISO Method 7954

* Microbiology – general guidelines for enumeration of *Bacillus cereus* colony count techniques at 30°C

** Use the PMN technique for the enumeration of *Escherichia coli* using the media described by this method.

SABS: South African Bureau of Standards

ISO: International Standards Organisaion

ANNEXURE B

Herb/Spices	Botanical name
Allspice……..	*Pimenta dioica* *Pimenta officinalis* (Berg)
Aniseed……..	*Pimpinella anisum* L.
Anise star ……..	*Illicium verum* L.
Bay leaf ……..	*Laurus nobilis* L.
Caraway……..	*Carum carvi* L.
Cardamom……..	*Elettaria cardamomum* (Maton)
Cassia (wild cinnamon, sena leafes)……..	*Cinnamomum burmanii* L. *Cinnaomum cassia* L. *Cinnamomum loureirii* (Nees) *Cinnamomum zeylanicum* (Nees)
Cayenne pepper (chilli) ……..	*Capsicum annum* L. *Capsicum baccatum* L. *Capsicum frutescens* L. and others
Celery (seed) ……..	*Apium graveolens* L.
Chervil……..	*Anthriscus cerefoliom* (Hoffm.)
Chives……..	*Allium schoenoprasum* L.
Cinnamon……..	See cassia
Cloves……..	*Eugenia caryophyllus* *Caryophyllus aomaricus* L.

Coriander……..	*Coriandrum sativum* L.
Cumin……..	*Cuminun cyminum* L.
Dill seed……..	*Anethum graveolens* L.
Fennel……..	*Foeniculum vulgare* L.
Fenugreek (Greek hay)……..	*Trigonella foenum-graecum* L.
Garlic……..	*Allium sativum* L.
Ginger……..	*Zingiber officinale* L.
Horseradish……..	*Cochlearia armoracia* L.
Mace (seed coat)……..	*Myristica fragans* (Houtt.)
Marjoram (motherwort)……..	*Majora hortensis* *Origanum* spp. *Origanum majorana* L. *Origanum nitex*
Mustard (black)……..	*Brassica juncea* L. *Brassica nigra* L.
Mustard (white)……..	*Brassica hirta*
Nutmeg (limed or unlimed)……..	*Myristica fragrans* (Houtt.)
Onion……..	*Allium cepa* L.
Origanum……..	*Origanum vulgare* L.
Paprika……..	*Capsicum annuum* L. *Capsicum fragrans* L. *Capsicum frutescens* L.
Parsley……..	*Petroselinum carum* *Petroselinum crispum* (Hoffm.)
Pepper (black)……..	*Piper nigrum* L.
Pepper (white)……..	*Piper nigrum* L.
Peppermint……..	*Mentha piperita* L.
Poppy seed……..	*Papaver somniferum* L.
Rosemary……..	*Rosmarinus officinalis* L.
Saffron……..	*Crocus sativus* L.
Sage……..	*Salvia officinalis* L.
Savory (bean wort)……..	*Satureja hortensis* L. *Satureja indicum* L.
Sesame……..	*Sesamum indicum* L.
Shallot……..	*Allium ascolonicom*
Spearmint (garden mint)……..	*Mentha spicata* L. *Mentha viridus*
Sweet basil (basil wort)……..	*Ocimum basilicum* L.
Tarragon……..	*Artemisia dracunculus* L.
Thyme……..	*Thymus vulgaris* L.
Tumeric (curcuma root)……..	*Curcuma longa* L.