

4.4.8 Facilities for storage of waste and inedible material

Facilities should be provided for the storage of waste and inedible material prior to removal from the establishment. These facilities should be designed to prevent access to waste or inedible material by pests and to avoid contamination of natural mineral water, potable water, equipment, buildings or roadways on the premises.

4.5 Equipment and Utensils

4.5.1 Materials

All equipment and utensils used in natural mineral water handling areas and which may contact the natural mineral water should be made of material which does not transmit toxic substances, odour or taste, is non-absorbent, is resistant to corrosion and is capable of withstanding repeated cleaning and disinfection. Surfaces should be smooth and free from pits and crevices. The use of wood and other materials which cannot be adequately cleaned and disinfected should be avoided except when their use would clearly not be a source of contamination. The use of different materials in such a way that contact corrosion can occur should be avoided.

4.5.2 Hygienic design, construction and installation

4.5.2.1 All equipment and utensils should be so designed and constructed as to prevent hygienic hazards and permit easy and thorough cleaning and disinfection.

SECTION V - ESTABLISHMENT: HYGIENE REQUIREMENTS

5.1 Maintenance

The buildings, equipment, utensils and all other physical facilities of the establishment, including drains, should be maintained in good repair and in an orderly condition. As far as practicable, rooms should be kept from steam, vapour and surplus water.

5.2 Cleaning and Disinfection

5.2.1 Cleaning and disinfection should meet the requirements of this Code. For further information on cleaning and disinfection procedures see Annex 1, Revised Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2 (1985)).

5.2.2 To prevent contamination of natural mineral water, all equipment and utensils should be

cleaned as frequently as necessary and disinfected whenever circumstances demand.

5.2.3 Adequate precautions should be taken to prevent natural mineral water from being contaminated during cleaning or disinfection of rooms, equipment or utensils, by water and detergents or by disinfectants and their solutions. Detergents and disinfectants should be suitable for the purpose intended and should be acceptable to the official agency having jurisdiction. Any residues of these agents on a surface which may come in contact with natural mineral water should be removed by thorough rinsing with water in compliance with Section 7.3 of the Recommended International Code of Hygienic Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2 (1985)) before the area or equipment is again used for handling natural mineral water.

5.2.4 Either immediately after cessation of work for the day or at such other times as may be appropriate, floors, including drains, auxiliary structures and walls of natural mineral water handling areas should be thoroughly cleaned.

5.2.5 Changing facilities and toilets should be kept clean at all times.

5.2.6 Roadways and yards in the immediate vicinity of and serving the premises should be kept clean.

5.3 Hygiene Control Programme

A permanent cleaning and disinfection schedule should be drawn up for each establishment to ensure that all areas are appropriately cleaned and that critical areas, equipment and material are designated for special attention. A single individual, who should preferably be a permanent member of the staff of the establishment and whose duties should be independent of production, should be appointed to be responsible for the cleanliness of the establishment. He should have a thorough understanding of the significance of contamination and the hazards involved. All cleaning personnel should be well-trained in cleaning techniques.

5.4 Storage and Disposal of Waste

Waste material should be handled in such a manner as to avoid contamination of natural mineral water or potable water. Care should be taken to prevent access to waste by pests. Waste should be removed from the natural mineral water handling and other working areas as often as necessary and at least daily. Immediately after disposal of the waste, receptacles used for storage and any equipment which has come into contact with the waste should be cleaned and disinfected. The waste storage area should also be cleaned and disinfected.

5.5 Exclusion of Animals

Animals that are uncontrolled or that could be a hazard to health should be excluded from establishments.

5.6 Pest Control

5.6.1 There should be an effective and continuous programme for the control of pests. Establishments and surrounding areas should be regularly examined for evidence of infestation.

5.6.2 Should pests gain entrance to the establishment, eradication measures should be instituted. Control measures involving treatment with chemical, physical or biological agents should only be undertaken by or under direct supervision of personnel who have a thorough understanding of the potential hazards to health resulting from the use of these agents, including those hazards which may arise from residues retained in the natural mineral water, such measures should only be carried out in accordance with the recommendations of the official agency having jurisdiction.

5.6.3 Pesticides should only be used if other precautionary measures cannot be used effectively. Before pesticides are applied, care should be taken to safeguard natural mineral water, equipment and utensils from contamination. After application, contaminated equipment and utensils should be thoroughly cleaned to remove residues prior to being used again.

5.7 Storage of Hazardous Substances

5.7.1 Pesticides or other substances which may represent a hazard to health should be suitably labelled with a warning about their toxicity and use. They should be stored in locked rooms or cabinets used only for that purpose and dispensed and handled only by authorized and properly trained personnel or by persons under strict supervision of trained personnel. Extreme care should be taken to avoid contaminating natural mineral water.

5.7.2 Except when necessary for hygienic or processing purposes, no substance which could contaminate natural mineral water should be used or stored in natural mineral water handling areas.

5.8 Personal Effects and Clothing

Personal effects and clothing should not be deposited in natural mineral water handling areas.

SECTION VI - PERSONNEL HYGIENE AND HEALTH REQUIREMENTS

6.1 Hygiene Training

Managers of establishments should arrange for adequate and continuing training of all natural mineral water handlers in hygienic handling of natural water and in personal hygiene so that they understand the precautions necessary to prevent contamination of natural mineral water. Instructions should include relevant parts of this Code.

6.2 Medical Examination

Persons who come into contact with natural mineral water in the course of their work should have a medical examination prior to employment if the official agency having jurisdiction, acting on medical advice, considers that this is necessary, whether because of epidemiological considerations or the medical history of the prospective natural mineral water handler. Medical examination of natural mineral water handlers should be carried out at other times when clinically or epidemiologically indicated.

6.3 Communicable Diseases

The management should take care to ensure that no person, while known or suspected to be suffering from, or to be a carrier of a disease likely to be transmitted through food or while afflicted with infected wounds, skin infections, sores or with diarrhoea, is permitted to work in any natural mineral water handling area in any capacity in which there is any likelihood of such a person directly or indirectly contaminating natural mineral water with pathogenic micro-organisms. Any person so affected should immediately report to the management that he is ill.

6.4 Injuries

Any person who has a cut or wound should not continue to handle natural mineral water or natural mineral water contact surfaces until the injury is completely protected by a waterproof covering which is firmly secured, and which is conspicuous in colour. Adequate first-aid facilities should be provided for this purpose.

6.5 Washing of Hands

Every person, while on duty in a natural mineral water handling area, should wash his hands frequently and thoroughly with a suitable hand cleaning preparation under running warm water in compliance with Section 7.3 of the Recommended International Code of Hygienic Practice - General Principles of Food Hygiene (CAC/RCP 1-1969 Rev. 2 (1985)). Hands should always be washed before commencing work, immediately after using the toilet, after handling contaminated material and whenever else necessary. After handling any material which might be capable of transmitting disease, hands should be washed and disinfected immediately. Notices requiring hand-washing should be displayed. There should be adequate supervision to ensure compliance with this requirement.

6.6 Personal Cleanliness

Every person engaged in a natural mineral water handling area should maintain a high degree of personal cleanliness while on duty, and should at all times while so engaged wear suitable protective clothing including head covering and footwear, all of which should be cleanable unless designed to be disposed of and should be maintained in a clean condition consistent with the nature of the work in which the person is engaged. Aprons and similar items should not be washed on the floor. During periods where natural mineral water is manipulated by hand, any jewellery that cannot be adequately disinfected should be removed from the hands.

Personnel should not wear any insecure jewellery when engaged in natural mineral water handling.

6.7 Personal Behaviour

Any behaviour which could result in contamination of natural mineral water, such as eating, use of tobacco, chewing (e.g. gum, sticks, betel nuts, etc.) or unhygienic practices such as spitting, should be prohibited in natural mineral water handling areas.

6.8 Visitors

Precautions should be taken to prevent visitors to natural mineral water handling areas from contaminating the product. These may include the use of protective clothing. Visitors should observe the provisions recommended in paragraphs 5.8, 6.3, 6.4 and 6.7 of this Code.

6.9 Supervision

Responsibility for ensuring compliance by all personnel with all requirements of Sections 6.1 -6.8 inclusive should be specifically allocated to competent supervisory personnel.

SECTION VII - ESTABLISHMENT: HYGIENIC PROCESSING REQUIREMENTS

7.1 Raw Material Requirements

To guarantee a good and stable quality of natural mineral water, certain criteria should be monitored regularly, e.g.

7.1.1 Spring discharge, temperature of the natural mineral water;

7.1.2 Appearance of the natural mineral water;

7.1.3 Odour and taste of the natural mineral water;

7.1.4 The conductance of natural mineral water or any other adequate parameter;

7.1.5 The microbiological flora.

7.2 Should there be a perceptible lack in meeting the standards, the necessary corrective measures are immediately to be taken.

7.3 Treatment

The treatment may include decantation, filtration, airing and where necessary application of offtake of carbon dioxide (CO₂).

7.3.1 Processing should be supervised by technically competent personnel.

7.3.2 All steps in the production process, including packaging, should be performed without unnecessary delay and under conditions which will prevent the possibility of contamination, deterioration, or the development of pathogenic and spoilage micro-organisms.

7.3.3 Rough treatment of containers should be avoided to prevent the possibility of contamination of the processed product.

7.3.4 Treatment and necessary controls should be such as to protect against contamination or development of a public health hazard and against deterioration within the limits of good commercial practice.

7.3.5 All contaminated equipment which has been in contact with raw materials should be thoroughly cleaned and disinfected prior to being used in contact with the end-products.

7.4 Packaging Material and Containers

7.4.1 All packaging material should be stored in a clean and sanitary manner. The material should be appropriate for the product to be packed and for the expected conditions of storage and should not transmit to the product objectionable substances beyond the limits acceptable to the official agency having jurisdiction. The packaging material should be sound and should provide appropriate protection from contamination. Only packaging material required for immediate use should be kept in the packing or filling area.

7.4.2 Product containers should not have been used for any purpose that may lead to contamination of the product. Used containers, also new containers if there is a possibility that they have been contaminated, should be cleaned and disinfected. When chemicals are used for these purposes, the container should be rinsed as prescribed under 5.2.3. Containers should be well drained after rinsing. Used and, when necessary, unused containers should be inspected immediately before filling.

7.5 Filling and Sealing of Containers

7.5.1 Packaging should be done under conditions that preclude the introduction of contaminants into the product.

7.5.2 The methods, equipment and material used for sealing should guarantee a tight and impervious sealing and not damage the containers nor deteriorate the chemical, bacteriological and organoleptic qualities of natural mineral water.

7.6 Packaging of Containers

The packaging of containers should protect the latter from contamination and damage and allow appropriate handling and storing.

7.7 Lot Identification

Each container shall be permanently marked in code or in clear to identify the producing factory and the lot. A lot is a quantity of natural mineral water produced under identical conditions, all packages of which should bear a lot number that identifies the production during a particular time interval, and usually from a particular "line" or other critical processing unit.

7.8 Processing and Production Records

Permanent, legible and dated records of pertinent processing and production details should be kept concerning each lot. These records should be retained for a period that exceeds the shelf life of the product. Records should also be kept of the initial distribution by lot.

7.9 Storage and Transport of the End-Product

The end-product should be stored and transported under such conditions as will preclude contamination with and/or proliferation of micro-organisms and protect against deterioration of the product or damage to the container. During storage, periodic inspection of the end-product should take place to ensure that only natural mineral water which is fit for human consumption is despatched and that end-product specifications should be complied with when they exist.

7.10 Sampling and Laboratory Control Procedure

The following are intended as guidelines for testing the water at the source and at critical control points:

Natural mineral water should contain no parasites and should meet the following criteria:

	n	c	m	M	Method
1. Coliforms	5x250 ml	1	0	1*	ISO/DIS 9308/1
2. <i>Faecal streptococci</i>	5x250 ml	1	0	1*	(ISO 7899/2)
3. Spore-forming sulfite-reducing anaerobes	5x250 ml	1	0	1*	(ISO 6461/2)
4. <i>Pseudomonas aeruginosa</i>	5x250 ml	0	0	-	(ISO 8360/2)
5. Aerobic microbial count: The maximum permissible total aerobic counts per milliliter at 20-22°C and 37°C depend on the unique characteristics of the source and should be fixed by the authority having jurisdiction.					

* In cases of positive results ($M \geq 1$) additional samples should be examined to determine the reason for positive results.

SECTION VIII - END-PRODUCT SPECIFICATIONS

During marketing, natural mineral water:

- (i) shall be of such a quality that it will not represent a risk to the health of the consumer (absence of pathogenic micro-organisms);
- (ii) furthermore it shall be in conformity with the following microbiological specifications:

First Examination

Decision

Coliforms*	1x250 ml	}	if absent → accepted
Group D <i>Streptococci</i>	1x250 ml	}	if ≥ 1 or ≤ 2 → second examination
		}	is carried out ¹

<i>P. aeruginosa</i>	1x250 ml	}	if > 2 → rejected
		}	if absent → accepted
		}	if ≥ 1 → rejected

Second Examination (4 x 250 ml)

	c ²	m	M	
Coliforms [*]	1	0	2	}
Group D <i>Streptococci</i>	1	0	2	} ISO Methods ³
<i>P. aeruginosa</i>	0	0	0	}

¹ The second examination shall include detection of coliforms, Group D *Streptococci*, and *P. aeruginosa*.

² Results from the first and second examination

³ Methods to be elaborated.

^{*} Shall not be *E. coli*.