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NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

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**National food safety standard -
Hygienic specifications for production
of packing drinking water**

食品安全国家标准
包装饮用水生产卫生规范

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National food safety standard - Hygienic specifications for production of packing drinking water

1 Scope

This Standard specifies the basic requirements and management criteria for the water quality monitoring, water source hygienic protection, source water collection, and the location, facilities, equipment, personnel in the processing, packaging, storage and transportation of packing drinking water.

This Standard applies to drinking natural mineral water, drinking pure water, other drinking water.

2 Term and definition

2.1 source water for production

Raw material water for the production of packing drinking water, which may be source water from a non-public water supply system (surface water or groundwater) or water from a public water supply system.

3 Water quality monitoring of source water for production

3.1 When water from public water supply systems and non-public water supply systems is used as the source water for production (except for drinking natural mineral water), the source water quality monitoring items are monitored according to the raw material requirements of GB 19298.

3.2 The source water quality of drinking natural mineral water shall be monitored according to the raw material requirements of GB 8537.

3.3 When water from non-public water supply systems is used as the source water for production, the monitoring frequency is at least once every year during the wet season and the dry season. In the case of special events such as earthquakes and floods, the number of monitoring shall be increased.

Equipment shall be installed and maintained with effective hygienic protection measures to avoid pollution to the source water. It shall disinfect in a timely manner after constructing new collection points (such as wells) near the collection point, pump repair displacement, or taking other collection maintenance actions. The water collecting capacity of the collection equipment shall match the allowable production volume.

5.2.4 Collection and transportation

It shall use closed pipes for transportation to prevent contamination. It shall not use containers for transportation to different places for filling.

6 Site selection and plant environment

In addition to complying with the specifications of Clause 3 of GB 14881-2013, if the source water for production is from the surface water or groundwater, the plant shall be located near the water source where the source water can be transported through the pipeline.

7 Plant and workshop

In addition to complying with the specifications of Clause 4 of GB 14881-2013, the following requirements shall also be met.

7.1 The plant and workshop shall have water treatment area, filling protection area, testing laboratory, packaging area, raw and auxiliary materials and packaging materials warehouse, and finished goods warehouse.

7.2 When the recyclable containers are used for the production of packing drinking water, it shall set the inspection and pretreatment area of recyclable containers separately.

7.3 If the food additives are used in the production process (except gas), the material burdening (feeding) area shall be set.

7.4 The plant and workshop shall be divided into general work area, quasi-cleaning work area and cleaning work area. The general work area usually includes water treatment area, packaging area, warehouse, inspection area of recyclable containers, etc.; the quasi-cleaning work area usually includes material burdening (feeding) area, pre-packaging cleaning and disinfection area, etc.; the filling protection area shall be set in the cleaning work area. The blowing, filling, and capping (sealing) integrated equipment with self-contained clean room and clean environment automatic recovery function, and a cleaning work environment inside may not be located in the cleaning work area.

8.2.5 The filling and capping (sealing) equipment shall be fully automated control equipment, and it shall not be filled or capped (sealed) manually.

8.2.6 If the recyclable containers are used to produce packing drinking water, it shall be equipped with external washing equipment, automatic internal washing and disinfecting equipment, light inspection equipment, automatic filling and capping (sealing) equipment, cover cleaning or disinfection equipment, coding equipment, etc. For the production of barreled drinking water, it shall also be equipped with capping equipment and barrel plastic film wrapping and sealing equipment.

8.2.7 The internal cleaning and disinfection equipment for empty barrels for recycle shall be continuous automatic equipment, including at least 10 cleaning and disinfecting stations such as pre-cleaning, detergent cleaning, disinfectant cleaning, water rinsing, and water rinsing of finished products (including draining process), and it shall set reasonable flushing time, pressure, detergent and disinfectant concentration to ensure the cleaning and disinfection efficacy of empty barrels.

9 Hygienic management

It shall comply with the specifications of Clause 6 of GB 14881-2013. If the ozone sterilization is used, the ozone concentration in the workplace air shall comply with relevant specifications.

10 Food related products

In addition to complying with the specifications of Clause 7 of GB 14881-2013, the following requirements shall also be met.

10.1 The packaging containers (bottles, barrels, bags), caps and lids that are not produced in the production line (outsourced) shall be packaged in clean and hygienic, waterproof materials during transportation and storage. The transport compartments and storage warehouse shall be kept clean. They shall not be transported and stored with toxic and hazardous materials. There shall be dustproof and anti-contamination measures.

10.2 The packaging containers and materials shall comply with relevant standards or regulations and shall not affect the safety of food and product characteristics under specific storage and use conditions. The additives used for packaging containers and materials for food contact shall comply with the requirements of GB 9685 and relevant regulations.

10.3 The recyclable barrels shall be made of materials that meet the

the performance of the membrane shall be checked.

11.2 Maintenance of equipment during production process

It shall monitor and maintain the effectiveness of the operation of water treatment device, establish maintenance plans, set up monitoring indicators, and maintain implementation records.

11.3 Monitoring of microorganisms during production process

The microbiological monitoring shall be carried out in key production links such as filling protection area and packaging containers after cleaning and disinfection. Specific monitoring requirements can be implemented according to Annex A.

12 Product inspection

In addition to complying with the specifications of Clause 9 of GB 14881-2013, the following requirements shall also be met.

12.1 Production line inspection

12.1.1 After filling and capping (sealing), the appearance, filling volume, container condition, capping (sealing) tightness and visible impurities of products shall be inspected.

12.1.2 The production enterprise shall be equipped with inspection personnel of empty bottles, empty barrels and finished products that are consistent with the production capacity.

12.1.3 It is recommended that enterprises use online inspection equipment, such as inspection equipment for empty bottles or finished bottles.

12.2 Laboratory inspection requirements

It shall have the ability to inspect the corresponding indicators, including the total number of colonies, coliforms, turbidity, color, ozone concentration (applicable only when the ozone process is used), conductivity (only applicable to drinking pure water). For those using non-public water supply system as the water source, it shall have the ability to inspect *Pseudomonas aeruginosa*, and the inspection of *Pseudomonas aeruginosa* can be commissioned by a qualified third party.

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