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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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Replacing GB 5749-2006

Standards for drinking water quality

生活饮用水卫生标准

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Foreword

This document was drafted in accordance with the rules given in GB/T 1.1-2020 "Directives for standardization - Part 1: Rules for the structure and drafting of standardizing documents".

This document replaces GB 5749-2006 "Standards for drinking water quality". Compared with GB 5749-2006, apart from structural and editorial changes, the main technical changes are as follows:

a) the water quality indices were changed from the 106 of GB 5749-2006 to 97, made up of 43 regular indices and 54 expanded indices (see Clause 4). Within that count: four indices were added - perchlorate, acetochlor, 2-methylisoborneol and geosmin; thirteen were deleted - thermotolerant coliforms, trichloroacetaldehyde, sulfide, cyanogen chloride (as CN-), HCH (total), parathion, parathion-methyl, lindane, DDT, formaldehyde, 1,1,1-trichloroethane, 1,2-dichlorobenzene and ethylbenzene; three were renamed - oxygen consumption (CODMn method, as O₂) became permanganate index (as O₂), ammonia nitrogen (as N) became ammonia (as N), and 1,2-dichloroethylene became 1,2-dichloroethylene (total); the limits of eight were changed - nitrate (as N), turbidity, permanganate index (as O₂), free chlorine, boron, vinyl chloride, trichloroethylene and

dimethoate; specific requirements were added for nuclide analysis and evaluation of the total beta radioactivity index and for the cases in which the microcystin-LR index applies; and the provisional relaxed limits for part of the indices of small centralized and decentralized water supply were deleted (see Clause 4 of the 2006 edition).

b) the reference indices were changed from the 28 of GB 5749-2006 to 55 (see Annex A). Twenty-nine were added - vanadium, HCH (total), parathion, parathion-methyl, lindane, DDT, trichlorfon, thiophanate-methyl, isoprothiolane, trifluralin, metalaxyl, simetryn, acephate, formaldehyde, trichloroacetaldehyde, cyanogen chloride (as CN-), N-nitrosodimethylamine, iodoacetic acid, 1,1,1-trichloroethane, ethylbenzene, 1,2-dichlorobenzene, perfluorooctanoic acid, perfluorooctane sulfonate, dimethyl disulfide, dimethyl trisulfide, iodide, sulfide, uranium and radium-226; two were deleted - 2-methylisoborneol and geosmin; three were renamed - dibromoethylene became 1,2-dibromoethane, nitrite became nitrite (as N), and asbestos (> 10 µm) became asbestos (fibre > 10 µm); and the limit of one was changed, petroleum (total).

Attention is drawn to the possibility that some of the content of this document may be the subject of patent rights. The issuing body of this document takes no responsibility for identifying them.

This document was proposed by, and is under the jurisdiction of, the National Health Commission of the People's Republic of China.

The editions of this document and of the document it replaces are: first issued in 1985 as GB 5749-1985, first revised in 2006; this is the second revision.

1 Scope

This document specifies the water quality requirements for drinking water, the water quality requirements for sources of drinking water, the hygienic requirements for centralized water supply units, the hygienic requirements for secondary water supply, the hygienic requirements for products involving the sanitation and safety of drinking water, and the inspection methods for water quality.

It applies to all types of drinking water.

2 Normative references

The content of the following documents constitutes, through normative reference in this text, indispensable provisions of this document. For dated references, only the edition corresponding to that date applies; for undated references, the latest edition (including all amendments) applies.

GB 3838 Environmental quality standards for surface water · GB/T 5750.1 - GB/T 5750.13 Standard examination methods for drinking water · GB/T 14848-2017 Standard for

groundwater quality · GB 17051 Hygienic specification for facilities of secondary water supply · GB/T 17218-1998 Hygienic safety evaluation for chemicals used in drinking water treatment · GB/T 17219-1998 Standard for safety evaluation of equipment and protective materials in drinking water system

3 Terms and definitions

The following terms and definitions apply to this document.

- 3.1 Drinking water - water drunk and used by people in daily life.
- 3.2 Centralized water supply - a supply that takes water from a source at one point and delivers it to users or to public draw-off points through a distribution network.
- 3.3 Small centralized water supply - a centralized water supply with a design daily output below 1 000 m³ or serving fewer than 10 000 people.
- 3.4 Decentralized water supply - a supply in which users take water directly from the source, with no treatment or with only simple treatment facilities.
- 3.5 Finished water - water that has completed the treatment process at a centralized water supply unit and is about to enter the distribution network.
- 3.6 Tap water - finished water delivered through the distribution network to the user's tap.
- 3.7 Regular indices - indices that reflect the basic state of drinking water quality.
- 3.8 Expanded indices - indices that reflect the characteristics of drinking water quality in a given area, or its state within a certain period or in special circumstances.

4 Water quality requirements for drinking water

- 4.1 Drinking water quality shall meet the following basic requirements, so that it is safe for users to drink: a) drinking water shall not contain pathogenic microorganisms; b) the chemical substances in drinking water shall not harm human health; c) the radioactive substances in drinking water shall not harm human health; d) drinking water shall have good organoleptic properties; e) drinking water shall be disinfected.
- 4.2 Drinking water quality shall meet the requirements of Table 1 and Table 3. The disinfectant limits and the residual disinfectant in finished water and in tap water shall meet the requirements of Table 2.

NOTE: where drinking water contains an index listed in Annex A, the limit given for that index in Table A.1 may be used as a reference for the assessment.

Table 1 sets the 43 regular indices and their limits, grouped as microbiological indices, toxicological indices, organoleptic and general chemical indices, and radiological indices; a footnote allows the organoleptic and general chemical indices to be relaxed temporarily,

after risk assessment, during a public emergency affecting water quality. Table 2 sets the limits and the residual amounts of the disinfectants - free chlorine, chloramine, ozone and chlorine dioxide - in finished water and in tap water. Table 3 sets the 54 expanded indices and their limits.

5 Water quality requirements for sources of drinking water

5.1 Where surface water is used as the source of drinking water, the source water quality shall meet GB 3838.

5.2 Where groundwater is used as the source of drinking water, the source water quality shall meet Clause 4 of GB/T 14848-2017.

5.3 Source water that cannot meet 5.1 or 5.2 is not suitable as a source of drinking water. Where conditions leave no alternative and it has to be used, it shall be treated by an appropriate purification process, and the treated water shall meet the requirements of this document.

6 Hygienic requirements for centralized water supply units

The hygienic requirements for centralized water supply units shall comply with the Hygienic Specification for Centralized Drinking Water Supply Units.

7 Hygienic requirements for secondary water supply

The facilities and the treatment requirements of secondary water supply shall comply with GB 17051.

8 Hygienic requirements for products involving the sanitation and safety of drinking water

8.1 The chemicals used in treating drinking water - flocculants, coagulant aids, disinfectants, oxidants, adsorbents, pH regulators, rust inhibitors, scale inhibitors and the like - shall not contaminate the drinking water and shall comply with Clause 3 of GB/T 17218-1998; disinfectants and disinfection equipment shall comply with the Specification for Hygienic Safety Evaluation of Disinfectants and Disinfection Equipment for Drinking Water (Trial).

8.2 The distribution equipment, the protective materials and the water treatment materials used for drinking water shall not contaminate the drinking water and shall comply with Clause 3 of GB/T 17219-1998.

9 Inspection methods for water quality