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

GB/T 17218-2025

Replacing GB/T 17218-1998

**Hygienic safety evaluation of chemicals used in drinking water
treatment**

生活饮用水化学处理剂卫生安全性评价

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents". Drafting.

This document supersedes GB/T 17218-1998 "Hygienic Safety Evaluation of Chemical Treatment Agents for Drinking Water" and is consistent with GB/T 17218-1998.

Aside from structural adjustments and editorial changes, the main technical changes are as follows.

- a) The scope of the document has been changed (see Chapter 1, Chapter 1 of the 1998 edition);
- b) Added terms and definitions (see Chapter 3);
- c) The metal indicators antimony, barium, beryllium, thallium, and copper have been added (see 4.2.1);
- d) Limits for copper, total chromium, dimethyldiallyl ammonium chloride, and maleic acid have been added (see 4.2.2);
- e) The procedures for sample collection and preservation have been changed (see 5.1, A1 of the 1998 edition);
- f) Sample collection information has been added (see 5.1);
- g) The method for collecting packaging samples has been changed (see 5.1.1.2, A1.1.1.2)

of the 1998 edition);

h) The sample size for sample preparation and the sample pretreatment method have been changed (see 5.2.2, A2.2 of the 1998 edition);

i) The formulation of polydimethyldiallylammonium chloride, acrylate-2-acrylamide-2-methylpropanesulfonic acid copolymer and polymaleic acid were added. Method (see 5.2.2);

j) Fifty-five new chemical treatment agents for drinking water have been added (see Table A.1);

k) Cationic polyacrylamide was removed (see Table A1 in the 1998 edition);

l) The evaluation dosage of aluminum-containing coagulants has been changed (see Table A.1, Table A1 of the 1998 edition);

m) The toxicological safety assessment classification, test content, and result evaluation were revised (see Appendix B, Appendix B of the 1998 edition);

n) A method for detecting maleic acid in water has been added (see Appendix C).

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed and is under the jurisdiction of the National Center for Disease Control and Prevention.

This document was drafted by: the National Institute for Environmental Health and Related Product Safety, Chinese Center for Disease Control and Prevention; and the Jiangsu Provincial Center for Disease Control and Prevention.

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This document was first published in 1998, and this is its first revision.

1 Scope

This document specifies the hygiene and safety requirements for chemical treatment agents for drinking water and describes the corresponding testing methods.

This document applies to applications such as coagulation, flocculation, reduction, pH

adjustment, scale inhibition, fluorination, disinfection, oxidation, softening, algae removal, defluorination, and dechlorination.

Hygiene and safety evaluation of chemical treatment agents for drinking water.

2 Normative references

GB 5749

GB/T 5750

GB/T 6682

GB/T 33085

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Evaluation dose

Dosage levels used for evaluating the health and safety of chemical treatment agents for drinking water.

Note. The evaluation dose is the maximum dosage of the chemical treatment agent under normal use conditions.

3.2 packaged sample

Samples that are pre-packaged in quantitative quantities and have uniform mass or volume markings within a certain quantitative limit.

3.3 bulk sample

Non-prepackaged samples.

4.1 Sensory characteristics requirements

When chemical treatment agents for drinking water are used at the prescribed dosage, the sensory properties of the treated water should meet the requirements of GB 5749.

4.2 Specific Substance Classifications and Requirements

4.2.1 Specific substances are divided into 4 categories.

a) Metals and metalloids. arsenic, cadmium, total chromium, lead, mercury, silver, antimony, barium, beryllium, selenium, thallium, copper;

b) Inorganic substances. depend on the product's raw materials, formulation, and

manufacturing process;

c) Organic matter. depends on the product's raw materials, formulation, and manufacturing process;

d) Radioactive materials. Total alpha radioactivity and total beta radioactivity are determined for products made directly from minerals.

4.2.2 Specific requirements for substances are as follows.

a) Specific substances in drinking water chemical treatment agents shall be tested according to the test methods specified in Chapter 5, and the corresponding detection indicators shall be as follows.

Appendix A ;

b) When a specific substance introduced into drinking water by chemical treatment agents is a substance specified in GB 5749, the limit value of that substance shall be specified.

It should be 10% of the limit specified in GB 5749, except for specific substances that are otherwise specified;

c) When specific substances introduced into drinking water by chemical treatment agents are not specified in GB 5749, relevant domestic and international standards shall apply.

For accurate determination, the limit for this substance should be 10% of the limit in relevant domestic and international standards, except for specific substances as otherwise specified.

d) If there is no basis to determine the limit for a specific substance introduced into drinking water by chemical treatment agents, the limit shall be determined according to Appendix B.

The maximum permissible concentration of a substance in drinking water shall be limited to 10% of the maximum permissible concentration.

e) The limit for copper is 0.2 mg/L, the limit for total chromium is 0.01 mg/L, and the limit for dimethyl diallyl ammonium chloride monomer is [missing value].

The limit for maleic acid is 0.05 mg/L, and the limit for maleic acid is 0.07 mg/L.

5.1.1.1 Collection of Bulk Samples

In the storage container of bulk samples, approximately 100 mL or 100 g samples were collected from different depths and locations evenly distributed within the container.

Five independent samples were thoroughly mixed to form a total of approximately 500 mL or 500 g of mixed sample. Sample collection information was recorded.