



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

GB 1903.73-2025

**National food safety standard - Food nutrition fortifier - Sodium
chloride**

食品安全国家标准 食品营养强化剂 氯化钠

Issued on: March 16, 2025

Implemented on: September 16, 2025

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

- 1 Scope
- 2 Molecular Formula and Relative Molecular Mass
 - 2.1 Molecular formula NaCl
- 3 Technical Requirements
- Appendix A

1 Scope

GB 1903.73-2025 is a mandatory national food safety standard for sodium chloride used as a nutritional fortifier. The distinction from table salt is the point of the document. Salt eaten as salt is a condiment; sodium chloride added to a formulated product - an oral rehydration preparation, an infant or medical food, a sports drink - is an ingredient added for a physiological purpose, in a controlled amount, often for people whose electrolyte balance is already compromised. That use demands a purity specification of its own and, in this case, deliberately non-iodised material, because the iodine level in such a product is set by the formulation rather than inherited from the salt. This standard applies to sodium chloride as a food nutrition fortifier, produced from non-iodised edible salt made to the relevant national standards, through impurity removal, crystallisation, centrifugation and the associated processes. As a GB it is compulsory. It is the reference for producers of food-grade sodium chloride, for the manufacturers of formulated foods and medical nutrition products that use it, and for the food safety authorities enforcing what may be added to food.

This Standard applies to sodium chloride, a food nutrition fortifier, produced from edible salt (not iodized) produced in accordance with relevant national standards, through the processes of impurity removal, crystallization, centrifugation and drying.

2.1 Molecular formula NaCl

2.2 Relative molecular mass 58.44 (according to the 2022 international relative atomic mass)

3 Technical Requirements

3.1 Sensory requirements Sensory requirements shall comply with the provisions of Table 1.

3.2 Physical and chemical indicators The physical and chemical indicators shall comply with the provisions of Table 2.

Appendix A

Inspection Methods A.1 Safety Tips Some reagents such as sulfuric acid used in the inspection methods of this Standard are toxic or corrosive. Appropriate safety and protective measures shall be taken during operation. A.2 General Unless otherwise specified, the purity of the reagents used in this Standard shall be analytically pure. The used standard titration solution, standard solution for impurity determination, preparations and products shall be prepared in accordance with the provisions of GB/T 601, GB/T 602 and GB/T 603, respectively. The test water shall comply with the provisions of Grade 3 water specified in GB/T 6682. When the solution used in the test is not specified with which solvent to prepare, it refers to aqueous solution. A.3 Identification Test A.3.1 Reagents and materials A.3.1.1 Hydrochloric acid. A.3.1.2 Nitric acid. A.3.1.3 Nitric acid solution. $c(\text{HNO}_3) =$

0.1 mol/L. Pipette

6.4 mL of nitric acid (A.3.1.2) and dilute it to 1,000 mL with water. A.3.1.4 Silver nitrate solution. 17 g/L. A.3.2 Instruments and equipment Electronic balance. Sensitivity is

0.1 g. A.3.3 Sodium ion identification Weigh about 1 g of the specimen and dissolve it in 10 mL of water. Dip a platinum wire in hydrochloric acid (A.3.1.1) and burn it on a colorless flame until it becomes colorless. Then dip a little test solution and burn it on a colorless flame. The flame shall turn bright yellow. A.3.4 Chloride ion identification Weigh about 1 g of the specimen, place it in a 125 mL conical flask; add 50 mL of water to dissolve it. And then add 10 mL of nitric acid solution (A.3.1.3) to make it acidic; add a few drops of silver nitrate solution (A.3.1.4); and a white curd-like precipitate shall be generated. A.4 pH test A.4.1 Reagents and materials A.4.1.1 Sodium hydroxide. A.4.1.2 Hydrochloric acid. A.4.1.3 Bromothymol blue. A.4.1.4 Sodium hydroxide solution. $c(\text{NaOH}) =$

0.02 mol/L. Weigh

0.8 g of sodium hydroxide (A.4.1.1); dissolve it in water and dilute to 1,000 mL. A.4.1.5 Bromothymol blue indicator solution. Take

0.1 g of bromothymol blue (A.4.1.3); add 8 mL of sodium hydroxide solution (A.4.1.4) to dissolve it; and then add water to dilute to 200 mL. A.4.1.6 Hydrochloric acid solution. $c(\text{HCl}) =$

0.02 mol/L. A.4.2 Instruments and equipment Electronic balance. Sensitivity is

0.01 g. A.4.3 Analysis procedures Weigh

5.0 g of the specimen (accurate to

0.01 g); add 50 mL of water to dissolve; and then add

0.10 mL of bromothymol blue indicator solution (A.4.1.5). If it turns yellow, add

0.10 mL of sodium hydroxide solution (A.4.1.4) and observe the color change; if it turns blue or green, add

0.20 mL of hydrochloric acid solution (A.4.1.6) and observe the color change. A.4.4 Judgment of results After adding bromothymol blue indicator solution (A.4.1.5) to the specimen solution, if it turns yellow, add sodium hydroxide solution (A.4.1.4) and turn it blue; if it turns blue or green, add hydrochloric acid solution (A.4.1.6) and turn it yellow, that is, the pH of the specimen passes the test. A.5 Solution clarity A.5.1 Method summary Compare the specimen solution with the specified turbidity standard solution to check the clarity of the solution. A.5.2 Reagents and materials A.5.2.1 Hydrazine sulfate. Dry to constant weight at 105°C before use. A.6.2.2 Acetic acid. A.6.2.3 Phenol red. A.6.2.4 Ammonium sulfate. A.6.2.5 Chloramine T. $C_7H_7ClNNaO_2S \cdot 3H_2O$. A.6.2.6 Potassium bromide. Dry to constant weight at 105 °C before use. A.6.2.7 Sodium thiosulfate. A.6.2.8 Sodium hydroxide solution. $c(NaOH) = 2 \text{ mol/L}$. Weigh 80 g of sodium hydroxide (A.6.2.1); dissolve in water; transfer to a 1,000 mL volumetric flask; and dilute to the scale. A.6.2.9 Acetic acid solution. $c(CH_3CO_2H) = 2 \text{ mol/L}$. Weigh 113.2 mL of acetic acid (A.6.2.2) and dilute to 1,000 mL with water. A.6.2.10 Phenol red solution. Weigh 33 mg of phenol red (A.6.2.3); add