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

GB 1253-2007

Working chemical - Sodium chloride

工作基准试剂 氯化钠

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Foreword

The standard Chapter 4, 5.3.1,

5.3.2 mandatory, other provisions are recommended. This standard replaces GB 1253-1989 "work reference reagent (capacity) sodium chloride", the main changes compared with the GB 1253-1989 as follows:

--- Standard name was changed to "work reference reagent sodium chloride";

--- Modify the Content Measurement (before version 4.1, this version 5.3);

--- PH value, water-insoluble, sulfate, total nitrogen, phosphate, iron, and the use of heavy metals in seven general method for the determination of chemical reagents (The previous version of 4.2,4.3.2,4.3.5,4.3.6,4.3.7,4.3.12,4.3.14, edition 5.4 , 5.6,5.9,5.10,5.11, 5.16,5.18). The standard proposed by China Petroleum and Chemical Industry Association. This standard by the National Standardization Technical Committee Chemistry Chemicals Branch (SAC/TC63/SC3) centralized. This standard is drafted by: Beijing Institute of chemical reagents. Participated in the drafting of this standard. Guangdong Guanghua Chemical Factory Co., Ltd. The main drafters of this standard. Han Baoying, strong Jing Lin, Wang Yuhua, Chenhan Zhao. This standard was first published in 1977, in 1989 the first amendment. Working Standard Reagent Sodium Chloride Molecular formula. NaCl Molecular Weight. 58.443 (according to 2003 international relative atomic mass)

1 Scope

China's mandatory national standard for sodium chloride as a working chemical. The

working grade sits below the primary standard grade and above ordinary reagent salt, and the distinction is what a laboratory buys it for: not to certify the concentration of another solution, but to do the work - preparing the physiological and buffer solutions, adjusting ionic strength, salting out, and standardising where a certified assay to a hundredth of a per cent is not needed. Because sodium chloride is used in bulk for those tasks, its impurity profile matters more than its assay: bromide and iodide interfere with argentometric methods, calcium and magnesium with complexometric ones, and heavy metals with almost everything. The standard specifies the requirements, the impurity limits and the test methods for the working grade, and works alongside GB 10733 which covers the primary standard grade of the same compound.

This standard specifies the characteristics, specifications, testing, inspection rules, and packaging and marking work on benchmarks agent

--- sodium chloride. This standard applies to the reference reagent titration analysis work

--- sodium chloride test.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard. Preparation of

GB/T 601 chemical reagent standard titration solution

GB/T 602 Determination of impurities in chemical reagents prepared standard solution (GB/T 602-2002,

ISO 6353-1. 1982, NEQ) with

GB/T 603 chemical reagent test method Preparations of articles (GB/T 603-2002,

ISO 6353-1 with. 1982, NEQ)

GB/T 609 chemical reagent - General method for determination of total nitrogen (GB/T 609-2006, ISO 6353-1. 1982, NEQ)

GB/T 6682 analytical laboratory use specifications and test methods (GB/T 6682-1992, neq ISO 3696. 1987)

GB/T 9723-2007 Chemicals flame atomic absorption spectrometry General

GB/T 9724 General rule for determination of pH chemical reagent (GB/T 9724-2007, ISO 6353-1. 1982, NEQ)

GB/T 9727 General method for the determination of phosphate chemical reagent (GB/T

9727-2007, ISO 6353-1. 1982, NEQ)

GB/T 9728 General method for determination of chemical reagents sulfate (GB/T 9728-2007, ISO 6353-1. 1982, NEQ)

GB/T 9735 General method for determination of heavy metals Chemicals (GB/T 9735-1988, eqv ISO 6353-1. 1982)

GB/T 9738 Determination of water insoluble chemical reagent - General method (GB/T 9738-1988, eqv ISO 6353-1. 1982)

3 Characters

This reagent is a white crystalline powder, soluble in water, almost insoluble in ethanol.

4 Specification

Sodium chloride as shown in Table 1. Table

1 NaCl specifications Name reference work Content (NaCl), /% 99.95 ~ 100.05 pH value (50g/L, 25 °C) 5.0 ~

5 Test

5.1 Warning Reagents used in this test method are toxic or corrosive, some of the testing process can lead to dangerous situations, the operator should take Appropriate safety and health practices.

5.2 General Provisions Unless specified otherwise in this chapter, the use of standard titration solution, standard solution, preparations and products, according to GB/T 601, GB/T 602, Regulations preparation, test water should be consistent with GB/T 6682 specifications in three water samples according to precise weighing 0.01g, the use of GB/T 603's Solution "%" are represented by the mass fraction.

5.3 Content Measured according to the provisions of GB 10737.

5.3.1 standard silver nitrate titration solution of sodium chloride titration Standards Weigh 0.15g at 500 °C ~ 600 °C to constant burning standard substance sodium chloride, accurate to 0.00001g. Placed in a reaction flask, Add water to dissolve 70mL, 10mL add starch indicator solution (10g/L), sulfur ion selective electrode (or silver electrode) as the indicator electrode with a 217 type Double salt bridge saturated calomel electrode (outer casing salt bridge built saturated ammonium nitrate or potassium nitrate solution) as a reference electrode. Titration with standard silver nitrate solution [Ba (AgNO₃) = 0.1mol/L] titrated to the end point. Weighing standard silver nitrate titration solution should be accurate to 0.0001g. Determination

5.3.2 Content

5.3.1 Determination of the same, instead of the standard sample material. The mass fraction of sodium chloride and its value is "%" means, according to equation (1). (1) Where. Content b

--- standard substance of sodium chloride (mass fraction), the value to "%" means; Determined according to the provisions of GB/T 9724's.

5.5 Clarity test Clarity Standard No.

2 Weigh 25g sample was dissolved in 100mL of water, turbidity is not greater than HG/T 3484 stipulated.

5.6 Water insoluble matter Weigh 50g sample was dissolved in 200mL of water in the water bath for 1h after, according to the provisions of GB/T 9738 Determination.

5.7 iodide 11g samples were weighed, dissolved in water 50mL, transferred to a separatory funnel, add 2mL of hydrochloric acid and 5mL ferric chloride solution (100g/L), Shake for 5min. Add 10mL of carbon tetrachloride, shaking 1min, place stratification, carbon tetrachloride layer was collected in colorimetric tube, and then each time with 5mL carbon tetrachloride extracted twice, into the colorimetric tube (reservations aqueous sample). The organic layer was purple No deeper than the standard colorimetric solution. Preparation of standard color solution is to take the ratio of 1g sample and containing 0.1mg of iodine (I) and a standard solution containing 0.5mg of bromine (Br) standard solution, The same treatment simultaneously with the sample (standard water retention).

5.8 bromide The aqueous sample

5.7 carved funnel to retain each extracted twice with 5mL carbon tetrachloride, carbon tetrachloride discarded, in solution Add 35mL sulfuric acid solution (1 + 1) and 10mL chromic acid solution (100g/L), shake for 5min. Add 10mL of carbon tetrachloride, shaking 1min, place stratification. Carbon tetrachloride layer was collected in colorimetric tube, and then 5mL carbon tetrachloride extraction, into a colorimetric tube. The organic layer was Yellow No deeper than the standard colorimetric solution. Preparation of standard color solution is to take the ratio of the standard solution

5.7 with an aqueous solution of

5.8 to retain the specimen while the same treatment.

5.9 sulfate Weigh 1g sample was dissolved in 20mL of water, add 0.5mL hydrochloric acid solution (20%) after acidification, according to the provisions of GB/T 9728 Determination. The turbidity of the solution was not greater than the standard turbidity solution. Standard preparation turbid solution is to take the ratio of 0.01mg containing sulfate (SO₄) standard solution, and treated in the same sample at the same time. Total nitrogen content of