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

GB 10736-2008

Working chemical - Potassium chloride

工作基准试剂 氯化钾

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Foreword

The standard Chapter 4, Section 5.3.1,

5.3.2 article are mandatory, other provisions are recommended. This standard replaces GB 10736-1989 "job reference reagent (capacity) potassium chloride", the main changes compared with the GB 10736-1989 as follows:

--- Standard name to "work reference reagent potassium chloride";

--- Modify the Content Measurement (1989 version 4.1, this version 5.3).

--- PH value, water-insoluble, sulfate, total nitrogen, phosphate, iron, heavy use of chemical reagents seven common method for determining (1989 4.2,4.3.2,4.3.5,4.3.6,4.3.7,4.3.11, 4.3.13 version, this version of 5.4,5 .6,5.9,5.10,5.11,5.15, 5.17). 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. The main drafters of this standard. Han Baoying, strong Jing Lin. This standard replaces the standards previously issued as follows:

--- GB 10736-1977, GB 10736-1989. Job reference potassium chloride reagent Molecular formula. KCl Molecular Weight. 74.551 (according to 2005 international relative atomic mass).

1 Scope

China's mandatory national standard for potassium chloride as a working chemical. The distinction from the primary standard grade is the point of the document, and it is economic rather than chemical: a primary standard is certified to a hundredth of a per cent and priced

accordingly, while a working chemical is the grade a laboratory uses in quantity for the tasks that do not require that certainty - preparing buffers and ionic strength adjusters, filling reference electrodes, making up the solutions against which the primary standard will later be used. Having both grades defined means a laboratory can buy the accuracy it needs where it needs it, instead of paying primary standard prices for salt bridge filling. The standard specifies the purity requirements, the impurity limits and the test methods for the working grade of potassium chloride.

This standard specifies the job reference potassium chloride reagent traits, specifications, testing, packaging and inspection rules and signs. This standard applies to titration analysis work reference potassium chloride reagent 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 6682-2008, ISO 3696. 1987, MOD)

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

9735-2008, ISO 6353-1. 1982, NEQ)

GB/T 9738 Chemicals water insoluble determination General method (GB/T 9738-2008, ISO 6353-1. 1982, NEQ)

3 Characters

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

4 Specification

Potassium chloride as shown in Table 1. Table

1 Name reference work Content (KCl), /% 99.95 ~ 100.05 pH value (50g/L, 25 °C) 5.5 ~

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 potassium chloride titration Standards Weigh 0.2g at 500 °C ~ 600 °C to constant burning substance potassium chloride standard, 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. Potassium chloride concentration, the value in the "%" means, according to equation (1). (1) Where. B --- material content standard potassium 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 Weigh 11g sample was dissolved in 50mL of water and transferred to a separatory funnel, add 2mL 5mL hydrochloric acid and ferric chloride solution (100g/L), shake Uniform, placed 5min. Add 10mL of carbon tetrachloride, shaking 1min, place stratification, carbon tetrachloride layer was collected in colorimetric tubes, and extracted with carbon tetrachloride Take twice 5mL, incorporated 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 2.0mg of bromine (Br) standard solution, The same treatment simultaneously with the sample (standard water retention).

5.8 bromide The aqueous sample

5.7 separatory funnel and extracted with carbon tetrachloride retained twice 5mL, discard the carbon tetrachloride, added to the solution 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

5.10 Weigh 2g sample was dissolved in water and diluted to 140mL, determined according to the provisions of GB/T 609's. The yellow solution can not be deeper than the standard ratio Color solution. Preparation of the standard developing solution containing 0.01mg ratio is taken of nitrogen (N) standard solution, the same treatment simultaneously with the sample.

5.11 Phosphate Weigh 1g sample was dissolved in an appropriate amount of water, add 2