ICS 71.040.30
CCS G61

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB 1257-2007

Working chemical - Potassium hydrogen phthalate

工作基准试剂 邻苯二甲酸氢钾

Issued on: October 25, 2007 **Implemented on: April 1, 2008**

Issued by: General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China;
Standardization Administration of China

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Foreword

The standard Chapter 4, 5.3.1,

5.3.2 mandatory, other provisions are recommended. This standard replaces GB 1257-1989 "work reference reagent (capacity) of potassium hydrogen phthalate," compared with GB 1257-1989 master To change the following.

--- Standard name was changed to "work reference reagent potassium hydrogen phthalate";

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

--- Water-insoluble, chloride and iron three common methods use chemical agents measured (before version 4.3.2,4.3.3,4.3.6, Excerpts 5.6,5.7,5.10). 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 potassium hydrogen phthalate Molecular formula. KHC8H4O

1 Scope

China's mandatory national standard for potassium hydrogen phthalate as a working chemical. The primary standard grade of this compound, covered by GB 10730, is certified to a hundredth of a per cent and priced for it; the working grade covered here is the same

substance at the accuracy a laboratory needs for the tasks it does in quantity - preparing the pH 4.01 buffer that calibrates every pH meter, standardising alkali for routine rather than referee work, and serving as the acid in student and production laboratories. Because the buffer application is the largest, the impurity that matters most is anything that shifts the pH: free phthalic acid, alkali, and moisture taken up before drying. The standard specifies the requirements, the impurity limits, the drying conditions and the test methods for the working grade.

This standard specifies the operating reference reagent

--- potassium hydrogen phthalate traits, specifications, testing, packaging and inspection rules and signs. This standard applies to the reference reagent titration analysis work

--- potassium hydrogen phthalate 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 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 9729 General method for determination of chloride Chemicals (GB/T 9729-2007, ISO 6353-1. 1982, NEQ)

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

GB/T 9739 General method for determination of iron chemical reagents (GB/T 9739-2006,

ISO 6353-1. 1982, NEQ) Determination of working reference reagent content

GB 10737 General Weighing potentiometric titration

3 Characters

This reagent is a colorless or white crystalline powder, soluble in water.

4 Specification

Potassium hydrogen phthalate as shown in Table 1. Table 1 specifications of potassium hydrogen phthalate Name reference work Content (KHC8H4O4), /% 99.95 ~ 100.05 pH value (50g/L, 25 °C) 3.8 ~

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 sodium hydroxide standard titration solution titration standard potassium hydrogen phthalate substances Weigh 0.5g at 105 °C ~ 110 °C standard potassium hydrogen phthalate material dried to a constant and precise to 0.00001g. Anti-place Shall flask, add 50mL no carbon dioxide dissolved in water, with type 231 glass electrode as indicator electrode with a 232-type saturated calomel electrode as the reference Electrodes with sodium hydroxide standard titration solution [Ba (NaOH) = 0.1mol/L] titrated to the end point. Weighing sodium hydroxide standard 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 hydrogen phthalate mass fraction, the value in the "%" means, according to equation (1). (1) Where. b

--- Standards potassium hydrogen phthalate content (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 7.5g sample, add 100mL water dissolved by heating, turbidity shall not exceed HG/T 3484 stipulated.

5.6 Water insoluble matter Weigh 40g sample, add 400mL of water, heated and dissolved in the water bath for 1h, the determination according to the provisions GB/T 9738's.

5.7 Chloride 5g samples were weighed, dissolved in 30mL hot water, cooling, 10mL of nitric acid, filtered and diluted to 50mL. Take 10mL, press The provisions of GB/T 9729 Determination. The turbidity of the solution was not greater than the standard turbidity solution. Standard preparation turbid solution is to take the ratio of 0.02mg containing chloride (Cl) standard solution was diluted to 10mL, and at the same time with the same volume of test solution Sample processing.

5.8 sulfur compounds Weigh 0.5g sample was placed in a platinum crucible, add anhydrous sodium carbonate 0.2g, mixing, add 2mL water wet, evaporated on a water bath heated To completely carbonized, gradually warmed up to 700 °C and burning to white. As no white residue, add a small amount of cooling water wet, evaporated on a water bath, then blanch burn. Repeat this operation until the residue was completely white, cool, add water, 5mL dissolved (filtered if necessary) with hydrochloric acid (20%) and, dilute Diluted to 10mL, plus 5mL "ethanol (95%)", 0.5mL hydrochloric acid solution (20%), constantly shaking dropping 3mL barium chloride solution (250g/L), diluted to 25mL, shake, place 10min. The turbidity of the solution was not greater than the standard turbidity solution. Standard preparation turbid solution is to take the ratio of 0.03mg containing sulfate (SO4) standard solution, and treated in the same sample at the same time.

5.9 Sodium Determined according to the provisions of GB/T 9723-2007 of.

5.9.1 Instrument Conditions Source. sodium hollow cathode lamp; Wavelength. 589.0nm; Flame. acetylene - air.

5.9.2 Determination Weigh 4g sample was dissolved in water and diluted to 100mL. Take 10mL, a total of four parts, according to the provisions of GB/T 9723-2007 in

7.2.2 Measurement results calculated according to the provisions of 7.2.3.

5.10 Iron Weigh 1g sample was dissolved in 15mL of hot water, with hydrochloric acid solution (15%) the pH of the solution was adjusted to 2, according to GB/T 9739 of Determination provisions. The red solution should not be deeper than the standard colorimetric solution. Preparation of the standard solution is to take the colorimetric containing 0.005mg of iron (Fe) standard solution, the same treatment simultaneously with the sample.

5.11 Heavy Metal 4g weighed sample was dissolved in 40mL hot water, take 30mL, add 0.2mL acetic acid solution (30%) and 10mL freshly prepared saturated Hydrogen sulfide