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

GB 6857-2008

pH primary reagent - Potassium hydrogen phthalate

pH 基准试剂 邻苯二甲酸氢钾

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Foreword

The standard Chapter 4,

5.3 are mandatory, other provisions are recommended. This standard replaces GB 6857-1986 "pH potassium hydrogen phthalate reference reagent", compared with GB 6857-1986 major changes as follows:

- Standard name changed to "pH reference reagent potassium hydrogen phthalate";
- PH (S) II value (0.05mol/kg, 25 °C) by the "pH (S) II = pH (S) I $\pm$ 0.005" adjusted "pH (S) II = pH (S) i $\pm$ 0.01 " (1986 version 1.1, the first edition chapter 4);
- Modify the method for the determination (1986 version 2.2, this version 5.4);
- Canceled aqueous reaction (1986 edition 2.3);
- Clarity test from "1" to "2" (1986 version 2.4.1, this version 5.5);
- Adjust the water insoluble, loss on drying, sampling amount of sodium (2.4.2,2.4.3,2.4.7 1986 edition, this edition of 5.6,5.7, 5.11);
- Modify the chloride method of measuring iron (2.4.4,2.4.8 1986 edition, this edition 5.8,5.12);
- Ammonium chemical reagents common method of measuring switch (1986 version 2.4.6, this version 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, China Institute of Metrology. The main drafters of this standard. Han Baoying, repair Hongyu. This standard was first published in 1986. Molecular formula. C₆H₄CO₂HCO₂K Molecular weight. 204.22 (according to 2007 international relative atomic mass)

1 Scope

GB 6857-2008 is the Chinese national standard on pH primary reagent - potassium hydrogen phthalate, in the field of chemical technology. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 31 December 2008 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 June 2009. Classification: ICS 71.040.30, CCS G61. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the reference reagent pH potassium hydrogen phthalate traits, specifications, testing, packaging and inspection rules and signs. This standard applies to pH reference reagent 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 1257-2007 work reference reagent potassium hydrogen phthalate

GB/T 6682 analytical laboratory use specifications and test methods (GB/T 6682-2008, ISO 3696. 1987, MOD)

GB 6851 pH value reference reagent General

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

GB/T 9729 General method for determination of chloride Chemicals (GB/T 9729-2007, ISO

6353-1. 1982, NEQ)

GB/T 9732 General method for the determination of ammonium Chemicals (GB/T 9732-2007, ISO 6353-1. 1982, NEQ)

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

GB/T 9739 General method for determination of iron chemical reagents (GB/T 9739-2006, ISO 6353-1. 1982, NEQ)

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 Name pH reference Potassium hydrogen phthalate pH of the solution (S) II value (0.05mol/kg, 25 °C) pH (S) II = pH (S) I ±

0.01 Content (C₆H₄CO₂HCO₂K), /% 99.95 ~ 100.05 Clarity test/number <=

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. According to the provisions of GB 6851 was measured using a palladium electrode dihydrotestosterone. Potassium hydrogen phthalate pH of the solution (S) I value (0.05mol/kg, 25 °C) certificate by the standard substance used to look up.

5.4 Content Determined according to the provisions of GB 1257-2007 5.3.

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 Loss on drying Weigh 5g samples, accurate to 0.0001g, has been placed at 105 °C ~ 110 °C constant weighing bottle, at 105 °C ~ 110 °C of Electric oven dried to constant weight. Constant retention samples for determination. Loss on drying mass fraction of 1, the value in the "%" means, according to equation (1). $100(1)$ Where.

5.8 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.

5.9 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.

5.10 ammonium Weigh 1g sample was determined according to the provisions of GB/T 9732's. The yellow solution can not be deeper than the standard colorimetric solution. Preparation of the standard developing solution containing 0.03mg ratio is taken of ammonium (NH₄) standard solution, the same treatment simultaneously with the sample. Sodium

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

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

5.11.2 Determination Weigh 1g sample was dissolved in water and diluted to 100mL. Take 20mL, a total of four. According to the provisions of GB/T 9723-2007 in

7.2.2 Measurement results calculated according to the provisions of 7.2.3.

6 Inspection rules

According to the provisions of HG/T 3921 is sampled and acceptance.

7 Packaging and marking