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

GB 6854-2008

pH primary reagent - Disodium hydrogen phosphate

pH 基准试剂 磷酸氢二钠

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Foreword

The standard Chapter 4,

5.3 are mandatory, other provisions are recommended. This standard replaces GB 6854-1986 "pH reference reagent disodium hydrogen phosphate," compared with GB 6854-1986 The main changes are as follows:

--- Mixed phosphate pH of the solution (S) II value (0.025mol/kg, 25 °C) by the "pH (S) II = pH (S) I $\pm$ 0.005" to adjust "PH (S) II = pH (S) I $\pm$ 0.01" (1986 edition 1.1, chapter 4 of this edition);

--- Project Name "reaction solution" to "pH value" (1986 version 1.3,2.3, edition Chapter 4, 5.5);

--- Adjust the water insoluble, sampling the amount of sulfate (2.4.2,2.4.4 1986 edition, this edition 5.7,5.9);

--- PH value, heavy metals and two common methods use chemical reagents Determination (1986 edition 2.3,2.4.10, this edition 5.5,5.15). 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. Na₂HPO₄

1 Scope

GB 6854-2008 is the Chinese national standard on ph primary reagent - disodium hydrogen

phosphate, 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 in sodium phosphate dibasic traits, specifications, testing, packaging and inspection rules and signs. This standard applies to pH reference reagent disodium hydrogen phosphate 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 610-2008 Chemical Reagent Determination of Arsenic in the general method (ISO 6353-1. 1982, NEQ)

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

GB/T 9725 General Chemical Reagents potentiometric titration (GB/T 9725-2007, 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 as white crystals, deliquescent, soluble in water, soluble in alcohol.

4 Specification

Disodium hydrogen phosphate as shown in Table 1. Table

1 Name pH reference Mixed phosphate pH of the solution (S) II value (0.025mol/kg, 25 °C)
 $\text{pH (S) II} = \text{pH (S) I} \pm$

0.01 Content (Na_2HPO_4), /% 99.0 ~ 100.1 pH (20g/L, 25 °C) 9.1 ~

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 platinum electrode dihydrotestosterone. Mixed phosphate pH of the solution (S) I (0.025mol/kg Na_2HPO_4 , 0.025mol/kg KH_2PO_4) certificate by the standard substance used to look up.

5.4 Content Weigh 2g sample dried to constant weight at $110\text{ }^\circ\text{C} \pm 2\text{ }^\circ\text{C}$, accurate to 0.0001g. No carbon dioxide dissolved in 100mL of water, Determined according to the provisions of GB/T 9725's. With hydrochloric acid standard titration solution [$\text{Ba (HCl)} = 0.5\text{mol/L}$] titrated to a pH value of

4.2 as the end point. Disodium hydrogen phosphate content and its value is "%" means, according to equation (1). 100 (1) Where. Value V_p

--- hydrochloric acid standard titration solution volume in milliliters (mL); Ba

--- accurate hydrochloric acid standard titration solution concentration value in units of

moles per liter (mol/L);

--- The M disodium hydrogenphosphate numerical molar mass in grams per mole (g/mol) [M (Na₂HPO₄) = 141.96]; Weigh 2g sample was dissolved in 100mL of carbon dioxide-free water, determined according to the provisions of GB/T 9724's.

5.6 Clarity test Clarity Standard No.

2 Weigh 10g sample was dissolved in 100mL of water, turbidity is not greater than HG/T 3484 stipulated.

5.7 Water insoluble matter Weigh 50g sample was dissolved in 250mL of water in the water bath for 1h, determined according to the provisions of GB/T 9738's.

5.8 Chloride Weigh 1g sample was dissolved in 25mL water, add 2mL nitric acid (25%) and 1mL silver nitrate (17g/L), shake for 10min. The turbidity of the solution was not greater than the standard turbidity solution. Preparation of the standard solution is to take the turbidimetric 0.02mg containing chloride (Cl) standard solution, the same treatment simultaneously with the sample.

5.9 sulfate Weigh 0.2g sample was dissolved in 10mL water, add 5mL "Ethanol (95%)", 1mL hydrochloric acid solution (10%), shaking continuously dropwise Add 3mL barium chloride solution (250g/L), diluted to 25mL, shake, place 10min. Turbidity can not be larger than the standard turbidity solution was Solution. Turbidity standard solution was prepared containing 0.01mg ratio is taken sulfate (SO₄) standard solution, the same treatment simultaneously with the sample.

5.10 Nitrate Weigh 1g sample was dissolved in 10mL of water, add 1mL sodium chloride solution (100g/L) and indigo carmine solution 1mL [Ba (C₁₆H₈N₂Na₂O₈S₂) = 0.001mol/L], with shaking in the 10s ~ 15s added 10mL sulfuric acid, placed 10min. Solution The blue shall not be lighter than the standard colorimetric solution. Preparation of standard color solution is to take the ratio of 0.01mg containing nitrate (NO₃) standard solution, and treated in the same sample at the same time.

5.11 Magnesium

5.11.1 prepared from magnesium disodium hydrogen phosphate solution 20g samples were weighed, dissolved in 200mL of water, add 4mL hydrochloric acid solution (20%), 4g of ammonium chloride, heated to boiling, add ammonia 40mL Solution (10%), shake 12h ~ 18h. Supernatant.

5.11.2 Determination 10g samples were weighed, dissolved in 100mL water, add 2mL of hydrochloric acid solution (20%) (filtered if necessary), 2G chloride, heated to boiling, Fractional added 25mL aqueous ammonia solution (10%), shake 12h ~ 18h. The precipitation may not be greater than the standard turbidity solution. Standard preparation turbid solution is to take the ratio of 122mL of disodium hydrogen phosphate solution