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CCS G61



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

GB 12597-2008

Working chemical - Benzoic acid

工作基准试剂 苯甲酸

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Foreword

The standard Chapter 4,

5.3.2 are mandatory, other provisions are recommended. This standard replaces GB 12597-1990 "job reference reagent (capacity) benzoic acid", compared with GB 12597-1990, the major change Of the following.

--- Standard name was changed to "work reference reagent acid";

--- Modify the Content Measurement (before version 4.1, this version 5.3). 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 12597-1977, GB 12597-1990. Benzoic acid reagent reference work Exemplary formula. C_6H_5COOH Molecular weight. 122.12 (according to 2005 international relative atomic mass).

1 Scope

GB 12597-2008 is the Chinese national standard on working chemical - benzoic acid, 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 18 June 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 job reference reagent acid trait, specifications, testing, packaging and inspection rules and signs. This standard applies to titration analysis work reference reagent acid 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 617 chemical reagent melting range of common measurement method (GB/T 617-2006, 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 9728 General method for determination of chemical reagents sulfate (GB/T 9728-2007, 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 9739 General method for determination of iron chemical reagents (GB/T 9739-2006, ISO 6353-1. 1982, NEQ)

GB/T 9741-2008 Determination of residue on ignition Chemicals General method (ISO 6353-1. 1982, NEQ) Determination of working reference reagent content

GB 10737-2007 General Weighing potentiometric titration

3 Characters

This reagent flake or needle crystal, sublimation, insoluble in water, soluble in ethanol, ether and other organic solvents.

4 Specification

Benzoic acid as shown in Table 1. Table

1 Name reference work Content (C_6H_5COOH), /% 99.95 ~ 100.05 Melting range, °C 121.5 ~ 123.5 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.

5.3 Content Measured according to the provisions of GB 10737-2007.

5.3.1 titration of sodium hydroxide standard titration solution of potassium hydrogen phthalate standard substance Weigh 0.5g at 105 °C ~ 110 °C drying to constant standard substance potassium hydrogen phthalate, accurate to 0.00001g, anti placed Should the bottle, no carbon dioxide dissolved in 30mL of water, add 4mL "ethanol (95%)," stirring from the manifold to the high purity nitrogen gas through the solution 10min, adjust the nitrogen intake pipe into the air, maintaining a small stream of nitrogen, with 231 glass electrode as indicator electrode, saturated with 232 Calomel electrode as the reference electrode, with a sodium hydroxide standard titration solution [$Ba(NaOH) = 0.1mol/L$] titrated to the end point. Weighing sodium hydroxide Standard Solution, should be accurate to 0.0001g. While doing the blank test. Determination

5.3.2 Content Weigh 0.3g of phosphorus pentoxide in a desiccator to constant sample of the nearest 0.00001g, placed in a reaction flask, is dissolved 4mL, add 30mL of carbon dioxide-free water, with subsequent determination of 5.3.1.5.3.1 and determination "of ethanol (95%),"

5.3.2 should Using the same set of electrodes. Benzoic acid content and its value is "%" means, according to equation (1). (1) Where. b

--- Standards potassium hydrogen phthalate content (mass fraction), the value to "%"

means;

--- The MG acid value of molar mass in grams per mole (g/mol) [M (C₆H₅COOH) = 122.12];
In grams (g); Numerical MB

--- Standard Substance potassium hydrogen phthalate molar mass in grams per mole (g/mol) [M (KHC₈H₄O₄) = 204.21]. Acid density of 1.27g/cm³, potassium hydrogen phthalate density of 1.63g/cm³.

5.4 melting range Determined according to the provisions of GB/T 617's.

5.5 Clarity test Weigh 10g sample was dissolved in 80mL water and 20mL ammonia, turbidity is not greater than HG/T 3484 standard prescribed Clarity Quasi No. 2.

5.6 Residue on ignition Weigh 10g sample, determined according to the provisions of GB/T 9741-2008

4.2 The results calculated according to the provisions of Chapter 5. The residue was retained Iron determination.

5.7 chlorine compounds Weigh 1g sample was placed in a platinum crucible, add 5mL sodium carbonate solution (50g/L), mix, evaporated on a water bath heated carbonization, gradually And the temperature was raised to 700 °C burning to white, cooled, dissolved in hot water (filtered if necessary), with a solution of nitric acid (25%), diluted to 20mL, press The provisions of GB/T 9729 Determination. The turbidity of the solution was not greater than the standard turbidity solution. Preparation of the standard solution is to take the turbidimetric 0.03mg containing chloride (Cl) standard solution, the same treatment simultaneously with the sample.

6 Inspection rules

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