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CCS G61



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

GB 12596-2008

Working chemical - Calcium carbonate

工作基准试剂 碳酸钙

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Standardization Administration of China**

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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 12596-1990 "job reference reagent (capacity) of calcium carbonate," major changes compared with the GB 12596-1990 as follows:

--- Standard name to "work reference reagent calcium carbonate";

--- Modify the Content Measurement (1990 version 4.1, this version 5.3);

--- Abolition of the "standard solution formulated Appendix A (Supplement)" (1990 edition Appendix A). 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 12596-1977, GB 12596-1990. Calcium carbonate work benchmark reagents
Molecular formula. CaCO_3

3 Molecular weight. 100.09 (according to 2005 international relative atomic mass).

1 Scope

GB 12596-2008 is the Chinese national standard on working chemical - calcium carbonate, 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 calcium carbonate work benchmark reagents traits, specifications, testing, packaging and inspection rules and signs. This standard applies to titration analysis of calcium carbonate work benchmark test reagent.

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 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 10738 Job reference reagent titration Determination General Weighing

GB 15346 chemical reagent packaging and marking

3 Characters

This reagent is white powder, insoluble in water.

4 Specification

Calcium carbonate as shown in Table 1. Table

5 Loss on drying //% ≤

0.2 Table 1 (continued) Name reference work Alkalinity (OH⁻ meter)/mmol/g ≤0.0025
Chloride (Cl) //% ≤

0.001 Sulphate (SO₄) //% ≤

0.01 Total nitrogen (N) //% ≤

0.01 Magnesium (Mg) //% ≤

0.02 Iron (Fe) //% ≤

0.001 Heavy Metals (as Pb) //% ≤0.001

5.3.2 Content

5.3.1 Determination of the same, with the measurement sample instead of the standard material loss after drying. Calcium carbonate content and its value is "%" means, according to equation (1). (1) Where. B

--- material content standard calcium carbonate (mass fraction), the value to "%" means;

5.4 Clarity test 10g samples were weighed, dissolved in 10mL water and 45mL of hydrochloric acid solution (20%), diluted to 100mL. Turbidity shall not exceed Clarity Standard No. 5 HG/T 3484 stipulated.

5.5 Loss on drying Weigh 2g sample, accurate to 0.0001g, has been placed at 110 °C ± 2 °C constant weighing bottle at 110 °C ± 2 °C electric bake Oven dried to constant weight. Samples retained after constant for determination. Loss on drying 1, the value in the "%" means, according to equation (2). 100 (2) Where.

5.6 alkalinity 3g Weigh sample plus 30mL of carbon dioxide-free water, warm, shake for 10min, cooled and filtered. Take 20mL filtrate, add 2 drops Phenolphthalein indicator solution (10g/L), as the filtrate is red, with a hydrochloric acid standard titration solution [Ba (HCl) = 0.1mol/L] titrated to a colorless solution. Alkalinity values in "mmol/g" represents, according to equation (3) Calculated. (3) Where. Value Vp

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

--- hydrochloric acid standard titration solution concentration value in units of moles per liter (mol/L);

5.7 Chloride Weigh 1g sample was dissolved in 10mL 6mL water and nitric acid solution (25%) diluted to 20mL, according to the provisions of GB/T 9729 measured set. 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 chloride (Cl) standard solution was diluted to 20mL, and at the same time with the same volume of test solution Sample processing.

5.8 sulfate Weigh 0.5g sample, add 5mL water was added dropwise a solution of hydrochloric acid (20%) to dissolve the sample, diluted to 100mL, take 20mL, press 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 was diluted to 20mL, at the same time with the same volume of test solution The same treatment.

5.9 total nitrogen content Weigh 1g sample, add 5mL water was added dropwise a solution of hydrochloric acid (20%) to dissolve the sample, diluted to 140mL, according to GB/T 609 requirements Determination. The yellow solution can not be deeper than the standard colorimetric solution. Preparation of the standard developing solution containing 0.10mg ratio is taken of nitrogen (N) standard solution was diluted to 140mL, and at the same time with the same volume of test solution deal with.

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

5.10.1 Instrument Conditions Source. magnesium hollow cathode lamp; Wavelength. 285.2nm; Flame. acetylene - air.

5.10.2 Determination Weigh 0.5g sample, add 5mL water was added dropwise a solution of hydrochloric acid (20%) to dissolve the sample, diluted to 100mL. Take 4mL, a total of four. According to the provisions of GB/T 9723-2007

7.2.2 measurement results calculated according to the provisions of 7.2.3.