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

**GB/T 11213.7-2008**

Replacing GB/T 11213.7-1989

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**Test methods of sodium hydroxide for chemical fiber use -- Part  
7: Determination of copper content-spectrometric method**

化纤用氢氧化钠试验方法 第7部分：铜含量的测定 分光光度法

**(English Translation)**

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### Foreword

GB/T 11213 "fiber with sodium hydroxide test method" is divided into the following sections.

- Part 1. Determination of sodium content;
- Part 2. Determination of sodium chloride content of spectrophotometry;
- Part 3. Determination of calcium EDTA complexometric titration;
- Part 4. Determination of silicon content by reduction of silicon molybdate salt spectrophotometric method;
- Part 5. Determination of sulfate content;
- Part 7. Determination of copper content spectrophotometry.

This section GB/T 11213 Part 7, the partially modified by the British Standards BS6075-12-1981 "hydroxide for industrial use Determination of sampling and test methods - Part 12 copper content "(in English).

This portion BS6075-12-1981 main technical differences are.

- Increasing the copper content in a sample is greater than 100μg processing method, expanding the scope of use;
- The measurement step in the filtering operation was revised to "carefully extract was collected in a 50mL volumetric flask, to avoid solid particles with Into the flask ";
- Based on units of measurement to modify the results of the calculation formula;
- Increasing the allowable difference provisions;
- Added "Test Report" chapter.

This Part replaces GB/T 11213.7-1989 "Fiber Determination of copper content in sodium spectrophotometric method." this section compared with the GB/T 11213.7-1989 The main changes are as follows.

- Modify the standard name;

- Increasing the standard "foreword";
- Modify the sample size (1989 Edition Chapter 5; edition 6.2);
- Increased when the copper content in a sample is greater than 100µg treatment (edition 6.2);
- The measurement step in the filtering operation was revised to "carefully extract was collected in a 50mL volumetric flask, to avoid solid particles with Into the flask "(1989 version 6.2.1; this edition 6.2);
- Added "Test Report" section (see Chapter 9).

This part is proposed by the China Petroleum and Chemical Industry Association.

This part of the National Standardization Technical Committee chlor-alkali chemical branch (SAC/TC63/SC6) centralized.

This section is drafted. Jinxi Chemical Industry Research Institute, Tianjin Dagu Chemical Co., Ltd., Haohua Yuhang Chemical Co., Ltd., Shanghai Chlor-Alkali Chemical Co., Ltd., Jinhua Group Chlor-Alkali Chemical Co., Ltd.

## 1 Scope

GB/T 11213 provisions of this part of the synthetic method for the determination of copper content neutralized with sodium hydroxide.

This section applies to the copper content of sodium hydroxide 0.00001% 0.0001% of the product.

## 2 Normative references

The following documents contain provisions which, through GB/T 11213 reference in this text, constitute provisions of this part. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 603 chemical reagent in test methods - Preparations with (GB/T 603-2002, ISO 6353-1. 1982 NEQ) GB/T 6682 analytical laboratory use specifications and test methods (GB/T 6682-2008, ISO 3696. 1987, MOD) Principle 3 Copper in the sample after being ascorbic acid and 2,2'-quinoline action, forming a purple complex with iso-amyl alcohol extracted complexes, and then absorbance was measured in a spectrophotometer at a wavelength of 545nm.

## 4 Reagents and materials

The method of the reagents and water, did not indicate when the other requirements, refer to the three water analytical reagent and GB/T 6682 or as specified Corresponding purity water.

Test preparation and products required in the absence of other provisions, prepared according to GB/T 603's.

### 4.1

sodium hydroxide.

### 4.2

over anhydrous sodium sulfate.

### 4.3

hydrochloric acid.

### 4.4

isoamyl alcohol.

### 4.5

bromine.

4.6 +) - tartaric acid solution. 500g/L.

### 4.7

Sodium hydroxide solution.200g/L.

### 4.8

L- ascorbic acid solution. 100g/L.

4.9 2,2'-quinoline complex solution. 0.5g/L isoamyl alcohol solution.

Weigh 0.25g 2,2'- linked quinoline, dissolved in iso-amyl alcohol, diluted to 500mL with iso-amyl alcohol.

### 4.10

Copper Standard solution. 0.1mg/mL.

Weigh 0.393g of copper sulfate pentahydrate ( $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ ), soluble in water, 25mL sulfuric acid (3mol/L), diluted with water 1000mL.

### 4.11

Copper Standard solution. 0.01mg/mL.

Absorb 10.0mL copper standard solution (4.10) diluted with water to 100mL. The solution

was formulated before use.