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CCS D53



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

**GB/T 14506.18-2010**

Replacing GB/T 14506.18-1993

**Methods for chemical analysis of silicate rocks - Part 18:  
Determination of copper content**

硅酸盐岩石化学分析方法 第18部分：铜量测定

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## Table of Contents

Foreword

1 Scope

About this edition

Classification and status

How a Chinese national standard is set out

About this English translation

### Foreword

GB/T 14506 "Methods for chemical analysis of silicate rocks" 30 consists of the following components.

- Part 1. Determination of water absorption;
- Part 2. Determination of combined water;
- Part 3. Determination of the amount of silica;
- Part 4. Determination of the amount of aluminum oxide;
- Part 5. Determination of total iron content;
- Part 6. Determination of calcium oxide content;
- Part 7. Determination of the amount of magnesium oxide;
- Part 8. Determination of the amount of titanium dioxide;
- Part 9. Determination of the amount of phosphorus pentoxide;
- Part 10. Determination of the amount of manganese oxide;
- Part 11. Determination of the amount of sodium hydroxide and oxide;
- Part 12. Determination of the amount of fluorine;
- Part 13. Determination of sulfur content;

### 1 Scope

GB/T 14506.18-2010 is the Chinese national standard on methods for chemical analysis of silicate rocks - part 18: determination of copper content, in the field of mining and minerals. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it

becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 10 November 2010 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 February 2011. Classification: ICS 73.080, CCS D53. 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.

GB/T 14506 provisions of this part of the determination of copper content of silicate rocks. This section applies to the determination of copper content of silicate rocks, is also suitable for the determination of copper content in soil and stream sediments. Measurement range. sodium hydroxide - ammonium chloride electrode method using a square wave spectrometer is  $4\mu\text{g/g}$  or more of the amount of copper. With oscillopolarography derivative unit Points was determined to  $10\mu\text{g/g}$  or more of the amount of copper. SCN - ethylenediamine - sodium sulfite Polarographic determination of  $5\mu\text{g/g}$  ~  $125\mu\text{g/g}$  of copper the amount. Flame atomic absorption spectrophotometry was  $5\mu\text{g/g}$  ~  $500\mu\text{g/g}$  of copper content.

## 2 Normative references

The following documents contain provisions which, through reference

GB/T 14506 in this section constitute provisions of this section. 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. Laboratory use specifications and test methods GB/T 6682 Analysis

GB/T 14506.1 Silicate rocks - Part 1. Determination of water adsorption 3 ammonia - ammonium chloride polarography

3.1 Principle Samples with hydrochloric acid - nitric acid - hydrofluoric acid decomposition of a small amount of perchloric acid or sulfuric acid, heated and evaporated to do to take the white smoke rush hydrofluoric acid. then In  $3\text{mol/L}$  ammonia -  $1\text{mol/L}$  ammonium chloride solution, with a square wave Polarograph or oscilloscope Polarograph peak potentials were about  $-0.45\text{V}$  (for Silver bar electrode) and  $-0.57\text{V}$  (saturated calomel electrode), the derivative part of the determination of the second reduction wave of copper, calculated the amount of copper.

3.2 Reagents Unless otherwise stated in this section are consistent with the use of analytical reagent and

GB/T 6682 analytical laboratory use in the analysis.

3.2.1 hydrochloric acid ( $\rho=1.19\text{g/mL}$ ), pure class distinctions.

3.2.2 hydrochloric acid (11), pure class distinctions.

3.2.3 nitrate ( $\rho=1.42\text{g/mL}$ ), pure class distinctions.

3.2.4 nitric acid (11), pure class distinctions.

3.2.5 sulfuric acid (11). Warning

--- improper dilution risk prone

3.2.6 hydrofluoric acid ( $\rho=1.15\text{g/mL}$ ). Warning

--- toxic and corrosive hydrofluoric acid, the operation should wear gloves to prevent skin contact.