

ICS 73.080

CCS D53



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

GB/T 14506.14-2010

Replacing GB/T 14506.14-1993

**Methods for chemical analysis of silicate rocks - Part 14:
Determination of ferrous oxide content**

硅酸盐岩石化学分析方法 第14部分：氧化亚铁量测定

Issued on: November 10, 2010

Implemented on: February 1, 2011

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China;
Standardization Administration of China**

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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 14506.14-2010 is the Chinese national standard on methods for chemical analysis of silicate rocks - part 14: determination of ferrous oxide 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 the amount of ferrous oxide silicate rocks. This section applies to the determination of the oxidation of ferrous silicate rocks amount, also applies to the determination of the soil and the amount of ferrous oxide stream sediments. Measurement range. > 0.5% of the amount of ferrous oxide.

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 Principle

3 Sample with hydrofluoric acid, sulfuric acid decomposition. The remaining solution was added boric acid complexation of fluoride. Diphenylamine sulfonate as indicator, the reference weight Potassium chromate solution titration, calculate the amount of ferrous oxide.

4 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.

4.1 Hydrofluoric acid (rho1.15g/mL). Warning

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

4.2 Sulfate (rho1.84g/mL). Warning

--- improper dilution risk prone

4.3 Sulfate (11). Warning

--- improper dilution risk prone

4.4 sulfuric acid (595).

4.5 phosphoric acid ($\rho=1.69\text{g/mL}$).

4.6 saturated boric acid solution.

4.7 sulfur - phosphorus mixed acid. Take 150mL sulfuric acid (4.2) slowly poured into 700mL of water, cooling, 150mL phosphoric acid (4.5), stir well.

4.8 ferrous ammonium sulfate solution $c[\text{FeSO}_4 \cdot (\text{NH}_4)_2\text{SO}_4 \cdot 6\text{H}_2\text{O}] = 0.0050\text{mol/L}$. Weigh 0.98g ferrous ammonium sulfate dissolved in sulfuric acid (4.4), and together with sulfuric acid (4.4) to 500mL, stir well.

4.9 Potassium dichromate standard titration solution $c(\text{K}_2\text{Cr}_2\text{O}_7) = 0.002319\text{mol/L}$. Weigh 0.6825g of pre-dried 150°C 2h baseline potassium dichromate ($\text{K}_2\text{Cr}_2\text{O}_7$), dissolved in water and transferred to 1000mL capacity Volumetric flask, dilute to the mark, shake. This solution 1mL containing 1.0000mg ferrous oxide.

4.10 diphenylamine sodium solution (5g/L). Weigh 0.5g of sodium diphenylamine was dissolved in 100mL of water, add 1 to 2 drops of sulfuric acid drops (4.3), stored in a brown bottle, if you can not use the color green.