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CCS D53



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

GB/T 14506.5-2010

Replacing GB/T 14506.5-1993

**Methods for chemical analysis of silicate rocks - Part 5:
Determination of ferric oxide content**

硅酸盐岩石化学分析方法 第5部分：总铁量测定

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Quarantine of the People's Republic of China;
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- 2 $\text{Cr}_2\text{O}_3 + 7 \text{H}_2\text{O} \rightarrow 6 \text{Fe}_2\text{O}_3 + 2 \text{Cr}_2\text{O}_3 + 7 \text{H}_2\text{O}$
- 3 Potassium dichromate volumetric method
- 6 $\text{Sn} + 4 \text{Cl}_2 + 2 \text{HgCl}_2 \rightarrow 2 \text{SnCl}_4 + 2 \text{HgCl}_2$

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 14506.5-2010 is the Chinese national standard on methods for chemical analysis of silicate rocks - part 5: determination of ferric 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 total iron (in TFe₂O₃ meter) measurement method silicate rocks. This section applies to the total iron silicate rock Determination, also applies to the measurement of soil and stream sediments in the total iron content. Measurement range. potassium dichromate volumetric method, greater than 5% of the total iron content. Sulfosalicylic acid spectrophotometric, from 0.05% to 15% of the total iron content. adjacent Phenanthroline spectrophotometry, from 0.01% to 15% of the total iron content.

2 Cr₂O₇²⁻ 14H⁺ -> 6Fe³⁺ 2Cr³⁺ 7H₂O

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 sodium peroxide.

3.2.2 ammonium fluoride.

3.2.3 sulfuric acid (11). Warning

--- improper dilution risk prone

3.2.4 sulfuric acid (595).

3.2.5 hydrochloric acid (rho1.19g/mL).

3.2.6 hydrochloric acid (11).

3.2.7 hydrochloric acid (12).

3.2.8 hydrochloric acid (595).

3 Potassium dichromate volumetric method

3.1 Principle Sample molten sodium peroxide, water extraction, acidified with hydrochloric acid; or use the filtrate after separation of silica, iron precipitation with ammonia, filtered stars From platinum, precipitated acid is dissolved into hydrochloric acid solution.

Dispensing prepared solution was added stannous chloride reduction of the trivalent iron is divalent iron, then chlorine Mercury oxide excess stannous chloride, sodium diphenylamine sulfonate as indicator, titrated with standard potassium dichromate solution titration, calculate the total amount of iron (to TFe₂O₃ meter). The reaction is. 2Fe