

ICS 73.080

CCS D53



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

GB/T 14506.21-2010

Replacing GB/T 14506.21-1993

**Methods for chemical analysis of silicate rocks - Part 21:
Determination of nickel and cobalt content**

硅酸盐岩石化学分析方法 第21部分：镍和钴量测定

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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 14506.21-2010 is the Chinese national standard on methods for chemical analysis of silicate rocks - part 21: determination of nickel and cobalt 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 silicate rocks in nickel and cobalt content. This section applies to the determination of nickel and cobalt in silicate rocks in an amount, also applies to the measurement of soil and stream sediments in the amount of nickel and cobalt. Measuring range. 5µg/g ~ 200µg/g of nickel and cobalt.

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 In pH8 ~ pH9 ammonia - ammonium chloride buffer solution to sulfosalicylic acid chelated iron, aluminum, titanium and other elements, to avoid a lot hydroxide After adsorption material trace nickel and cobalt, adding a small amount of dimethylglyoxime, on the oscilloscope Polarograph starting potential is -0.86V, peak potential of nickel and cobalt Approximately -1.03V and -1.18V (saturated calomel electrode), nickel and cobalt, a sensitive adsorption catalytic current, peak height and nickel and cobalt Concentration linear relationship to calculate the amount of nickel and cobalt.

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 sodium peroxide.

4.2 sodium hydroxide.

4.3 Sodium hydroxide solution (10g/L).

4.4 hydrochloric acid (rho1.19g/mL), pure class distinctions.

4.5 hydrochloride (11).

4.6 hydrochloric acid (199).

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

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

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

4.9 perchloric acid ($\rho=1.67\text{g/mL}$), pure class distinctions. Warning

--- explosive materials, careful

4.11 sulfosalicylic acid solution. $c[\text{HOOC}_6\text{H}_3(\text{COOH})\text{SO}_3\text{H} \cdot 2\text{H}_2\text{O}] = 2\text{mol/L}$. weigh 102g Sulfosalicyl placed 250mL beaker, dissolved in water and diluted to 200mL, stir well.

4.12 ammonia (5545).