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

GB/T 14506.15-2010

Replacing GB/T 14506.15-1993

**Methods for chemical analysis of silicate rocks - Part 15:
Determination of lithium content**

硅酸盐岩石化学分析方法 第15部分：锂量测定

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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 14506.15-2010 is the Chinese national standard on methods for chemical analysis of silicate rocks - part 15: determination of lithium 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 lithium silicate rocks. This section applies to the amount of lithium silicate rocks in the determination also applies to the measurement of soil and stream sediments in the amount of lithium. Measuring range. $5\mu\text{g}/\text{amount of lithium g} \sim 250\mu\text{g}/\text{g}$ of.

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 sulfuric acid, hydrofluoric acid thermal decomposition to produce a 2% solution of sulfuric acid, potassium salt as a buffer ionization, atomic absorption spectrophotometer, The wavelength at 670.8nm in air - acetylene flame measured absorbance of lithium, the calculated amount of lithium.

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 Sulfate ($\rho=1.84\text{g/mL}$). Warning

--- improper dilution risk prone

4.2 Sulfate (11). Warning

--- improper dilution risk prone

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

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

4.4 potash solution. Weigh 22.31g potassium sulfate (K_2SO_4) was dissolved in an appropriate amount of water, diluted with water to 500mL, shake. This solution 1mL containing 20mg of potassium.

4.5 Lithium standard solution.

a) Lithium standard stock solution (1.00mg/mL). Weigh 2.6618g advance by 110 °C drying 2h and cooled in a desiccator over Pure lithium carbonate (Li_2CO_3) in 400mL beaker, add water 200mL, cover the surface of the dish, slowly adding a small amount of sulfuric acid (4.1) to make Was dissolved, dissolution was complete after carbon dioxide removal by boiling, cooled transferred 500mL volumetric flask, dilute to the mark with water, Shake;

b) Lithium standard solution (50.0 μ g/mL). dispensing 25.0mL standard solution of lithium [4.5A)] in 500mL volumetric flask Diluted with water to the mark. This solution 1mL containing 50.0 μ g lithium.

5 Instruments

5.1 Atomic absorption spectrophotometer equipped with a lithium hollow cathode lamps.