

ICS 73.080  
CCS D53



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

**GB/T 14506.32-2019**

---

**Methods for chemical analysis of silicate rocks - Part 32: Determination  
of 20 components including aluminium oxide etc. - Mixed acid  
digestion-inductively coupled plasma atomic emission spectrometry**

**硅酸盐岩石化学分析方法 第32部分：三氧化二铝等20个分量测定 混合酸分解-  
电感耦合等离子体原子发射光谱法**

---

**Issued on: October 18, 2019**

**Implemented on: May 1, 2020**

---

**Issued by: State Administration for Market Regulation;  
Standardization Administration of China**

## Table of Contents

|     |                                    |   |
|-----|------------------------------------|---|
| 1   | Scope                              |   |
| 2   | Normative references               |   |
| 3   | Principle                          |   |
| 4   | Test conditions                    | 2 |
| 5   | reagents or materials              | 2 |
| 6   | instruments and equipment          | 3 |
| 7   | sample                             |   |
| 8   | Test step                          |   |
| 8.1 | Sample decomposition               |   |
| 8.2 | Blank test                         |   |
| 8.3 | Verification Test                  |   |
| 8.4 | Parallel test                      |   |
| 8.5 | Determination                      | 4 |
| 9   | test data processing               |   |
| 9.1 | Calculation method of result       |   |
| 9.2 | Result Interference Correction     | 5 |
| 10  | precision                          | 5 |
| 11  | correctness                        |   |
| 10  | Lia 0.1 0.3~1000 MgO 0.005 0.02~   |   |
| 12  | Reference                          |   |
| 14  | Sca 0.03 0.1~1000 P2O5 0.007 0.02~ |   |

## Foreword

GB/T 14506 "Chemical Analysis Method for Silicate Rocks" consists of the following 34 parts.

- Part 1. Determination of adsorbed water;
- Part 2. Determination of combined water content;
- 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 the amount of calcium oxide;
- 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 manganese oxide content;

--- Part 11. Determination of potassium oxide and sodium oxide;

--- Part 12. Determination of fluorine content;

--- Part 13. Determination of sulfur content;

## 1 Scope

GB/T 14506.32-2019 is the Chinese national standard on methods for chemical analysis of silicate rocks - part 32: determination of 20 components including aluminium oxide etc. - mixed acid digestion-inductively coupled plasma atomic emission spectrometry, 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 18 October 2019 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 May 2020. 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.

This part of GB/T 14506 specifies the determination of three in silicate rock by mixed acid decomposition-inductively coupled plasma atomic emission spectrometry Aluminum oxide, calcium oxide, total iron (calculated as ferric oxide), potassium oxide, magnesium oxide, manganese oxide, sodium oxide, phosphorus pentoxide, titanium dioxide, antimony, Amounts of antimony, cobalt, copper, lithium, nickel, lead, antimony, bismuth, vanadium and zinc. This section applies to silicate rock in aluminum oxide, calcium oxide, total iron (calculated as ferric oxide), potassium oxide, magnesium oxide, manganese oxide, Mixed acid decomposition-inductively coupled isotope of sodium oxide, phosphorus pentoxide, titanium dioxide, antimony, bismuth, cobalt, copper, lithium, nickel, lead, antimony, bismuth, vanadium and zinc Determination by atomic atomic emission spectrometry is also applicable to the determination of the above components in soil and sediment samples. The method detection limits and measurement ranges are shown in Table 1. Table

1 Method detection limit and measurement range % Component method detection limit measurement range component method detection limit measurement range Al<sub>2</sub>O<sub>3</sub> 0.002 0.007~

23 Bea 0.007 0.02~1000 CaO 0.003 0.01~

35 Coa 0.3 1~2000 Fe<sub>2</sub>O<sub>3</sub> 0.004 0.01~

35 Cua 1 3~5000 K<sub>2</sub>O 0.003 0.01~

## 2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article. Pieces. For undated references, the latest edition (including all amendments) applies to this document.

**10 Lia 0.1 0.3~1000 MgO 0.005 0.02~**

25 Nia 0.4 1~1000 MnO 0.00003 0.0001~

chinastandards.org · PREVIEW