

ICS 73.060
CCS D40



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

GB/T 14353.15-2014

Replacing GB/T 14353.15-1993

**Methods for chemical analysis of copper ores, lead ores and
zinc ores-Part 15: Determination of selenium content**

铜矿石、铅矿石和锌矿石化学分析方法 第15部分：硒量测定

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Foreword

GB/T 14353 "copper ores lead ores and zinc ores chemical analysis method" is divided into 18 parts.

- Part 1. Determination of copper content;
- Part 2. Determination of lead content;
- Part 3. Determination of the amount of zinc;
- Part 4. Determination of cadmium content;
- Part 5. Determination of nickel content;
- Part 6. Determination of cobalt content;
- Part 7. Determination of arsenic content;
- Part 8. Determination of the amount of bismuth;
- Part 9. Determination of molybdenum;
- Part 10. Determination of tungsten;
- Part 11. determination of silver;
- Part 12. Determination of sulfur content;
- Part 13. the amount of gallium, indium amount, the amount of thallium, tungsten and determination of the amount of molybdenum content;

1 Scope

GB/T 14353.15-2014 is the Chinese national standard on methods for chemical analysis of copper ores, lead ores and zinc ores-part 15: determination of selenium 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 5 December 2014 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 April 2015. Classification: ICS 73.060, CCS D40. 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 14353 provisions of this part of the copper ore, determination of selenium content of lead ores and zinc ores - Atomic Fluorescence Spectrometry. This section applies to copper ores, lead ores and zinc ores - Determination of the amount of selenium - Atomic Fluorescence Spectrometry. Measuring range. $0.06\mu\text{g/g} \sim 100\mu\text{g/g}$ of selenium. The detection limit. selenium $0.020\mu\text{g/g}$.

2 Normative references

The following documents for the application of this document is essential, dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document. Laboratory use specifications and test methods GB/T 6682 Analysis

GB/T 14505 method for chemical analysis of rocks and ores General rules and regulations Principle

3 Aiskaer sample using reagents (sodium carbonate and zinc oxide) semi-melting method decomposition, boiling water extract, selenium and other coexisting ion separation. in 30% hydrochloric acid medium, selenium and potassium borohydride reaction of hydride gas, argon gas as a carrier to import electric quartz furnace, the flame of hydrogen radicals And hydride collisional dissociation into free atoms, selenium high intensity hollow cathode lamp as the light source, using atomic fluorescence spectrometry determination of selenium fluorescent light Spectral intensity calculating the amount of selenium atoms in a sample based on the fluorescence intensity.

4 Reagents

Unless otherwise indicated in the analysis are consistent with the use of analytical reagents and GB/T 6682 water analytical laboratory.

4.1 hydrochloric acid ($\rho = 1.19\text{g/mL}$).

4.2 hydrochloride (11).

4.3 hydrochloride (19). Ethanol 4.4 [$\phi(\text{CH}_3\text{CH}_2\text{OH}) = 95\%$].

4.5 potassium borohydride solution [$\rho(\text{KBH}_4) = 30\text{g/L}$]. Weigh 30g potassium borohydride, stirring to dissolve potassium hydroxide solution [$\rho(\text{KOH}) = 5\text{g/L}$], and diluted to 1000mL, shake, use Temporary formulated. Ferric chloride solution 4.6 [$\rho(\text{Fe}) =$

25mg/mL]. Weigh 60.9g of ferric chloride ($\text{FeCl}_3 \cdot 6\text{H}_2\text{O}$) in 250mL beaker, add 40mL of hydrochloric acid (4.3) dissolved in water and transferred 500mL volumetric flask, and dilute to volume, mix and set aside.

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