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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 14352.15-2010

Replacing GB/T 14352.15-1993

Methods for chemical analysis of tungsten ores and molybdenum ores - Part 15: Determination of germanium content

钨矿石、钼矿石化学分析方法 第15部分：锗量测定

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Foreword

GB/T 14352 "tungsten ores and molybdenum ores chemical analysis methods," a total of 18 parts.

--- Part 1. Determination of tungsten;

--- Part 2. Determination of molybdenum;

--- Part 3. Determination of copper content;

--- Part 4. Determination of lead content;

--- Part 5. Determination of the amount of zinc;

--- Part 6. Determination of cadmium content;

--- Part 7. Determination of cobalt content;

--- Part 8. Determination of nickel content;

--- Part 9. Determination of sulfur content;

--- Part 10. Determination of arsenic content;

--- Part 11. Determination of the amount of bismuth;

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--- Part 13. Determination of tin;

1 Scope

GB/T 14352.15-2010 is the Chinese national standard on methods for chemical analysis of tungsten ores and molybdenum ores - part 15: determination of germanium 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 73.060, 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.

This section GB/T 14352 provides for tungsten ores and molybdenum ores in the determination of germanium content. This Part applies to tungsten ores and molybdenum ores - Determination of germanium content. Measuring range: 1μg/g ~ 200μg/g of germanium.

2 Normative references

The following documents contain provisions which, through reference

GB/T 14352 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 14505 method for chemical analysis of rocks and ores General rules and regulations Principle

3 The sample was nitric acid - hydrofluoric acid - sulfuric acid points to lift silicon, oleum take time to make fluorine, sodium oxide and then after alkali fusion, distillation in hydrochloric acid medium GeCl4, separated from other interfering elements in dilute hydrochloric acid medium with sodium sulfite under the presence of germanium and Phenylfluorone - cetyl trimethyl ammonium bromide Orange-red to form a stable ternary complex, on a spectrophotometer, the absorbance is measured at a wavelength of 508nm, and calculate the amount of germanium.

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. Anhydrous sodium sulfite 4.2. Nitrate 4.3 (rho1.42g/mL).

4.4 hydrofluoric acid (rho1.13g/mL), Warning. Toxic and corrosive hydrofluoric acid, the operation should wear gloves to prevent skin contact.

4.5 phosphoric acid (rho1.7g/mL).

4.6 hydrochloride (rho1.19g/mL).

4.7 sulfuric acid (11), Warning. improper dilution risk prone.

4.8 Sodium hydroxide solution c (NaOH) = 1.0mol/L.

4.9 Sodium hydroxide solution c (NaOH) = 10.0mol/L.

4.10 sodium sulfite solution (200g/L).

4.11 cetyl trimethyl ammonium bromide solution (referred to as CTAB) (10g/L). Weigh 1g cetyl trimethyl ammonium bromide dissolved in 100mL boiling water, stirring to dissolve to clear after cooling use.

4.12 Phenylfluorone ethanol solution (0.6g/L). Weigh 60mg Phenylfuoron 2mL containing dissolved hydrochloric acid (4.6) in 100mL anhydrous ethanol and stirred until dissolved.