

ICS 73.060
CCS D40



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

GB/T 14353.8-2010

Replacing GB/T 14353.8-1993

**Methods for chemical analysis of copper ores, lead ores and
zinc ores - Part 8: Determination of bismuth content**

铜矿石、铅矿石和锌矿石化学分析方法 第8部分：铋量测定

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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 and thallium amount for determination;

1 Scope

GB/T 14353.8-2010 is the Chinese national standard on methods for chemical analysis of copper ores, lead ores and zinc ores - part 8: determination of bismuth 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.

GB/T 14353 in this section specifies the method for determination of copper ores lead ores and zinc ores of bismuth content. This section applies to copper ore, determination of bismuth content of lead ores and zinc ores. Measuring range. 0.1 μ g/g ~ 200 μ g/g of bismuth.

2 Normative references

The following documents contain provisions which, through reference

GB/T 14353 in this section constitute provisions of this part of the 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 Sample with aqua regia decomposition under acidic conditions, thiourea as a masking agent, and bismuth potassium borohydride hydrogenation reaction of bismuth by a carrier gas (argon) with The quartz atomizer, thermal decomposition of bismuth atomic state, under the irradiation of bismuth special hollow cathode lamp, the ground state of bismuth atoms are excited to high energy state, then Activated to the ground state, emitting a characteristic wavelength of fluorescence, within a certain range of concentrations, and fluorescence intensity is directly proportional to the amount of bismuth with standard series Comparison of quantitative determination of the element bismuth.

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 hydrochloric acid (ρ 1.19g/mL), pure class distinctions.

4.2 nitrate (ρ 1.42g/mL), pure class distinctions.

4.3 aqua regia (11). 75mL hydrochloric acid (4.1) plus 25mL of nitric acid (4.2) was mixed with 100mL of water, using now.

4.4 hydrochloride (19).

4.5 thiourea solution (100g/L). Weigh 10.0g of thiourea was dissolved in 100mL of water, mix, using now.

4.6 Potassium hydroxide solution (2g/L). Weigh 2g of potassium hydroxide dissolved in 1000mL of water, and mix.

4.7 solution of potassium borohydride (10g/L). Weigh 10g of potassium borohydride dissolved in 1000mL potassium hydroxide solution (4.6), and mix well. If impurities, with cotton filter back now With the existing service.

4.8 bismuth standard solution preparation.