

ICS 73.060

CCS D42



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

GB/T 15925-2010

Replacing GB/T 15925-1995

**Method for chemical analysis of antimony ores - Determination
of antimony content**

锑矿石化学分析方法 锑量测定

Issued on: November 10, 2010

Implemented on: February 1, 2011

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China;
Standardization Administration of China**

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Foreword

This standard replaces GB/T 15925-1995 "Determination of antimony content of antimony ores chemical analysis of Cerium sulfate volumetric method." This standard compared with GB/T 15925-1995, the main changes are as follows:

- Modify the standard Chinese name;
- Increasing the standard English name;
- Increased alert, warning of the content;
- Increasing the purity of the reagents used and experimental water requirements;
- Increasing the particle size of the sample and drying requirements;
- Increased verification test content. The standard proposed by the People's Republic of China Ministry of Land Resources. This standard by the National Standardization Technical Committee of Land and Resources. This standard is drafted by: National Geological Experimental Test Center. This standard was drafted. Hubei Institute of Geology. The main drafters of this standard. Tangxing Min, a Liu Jian, Fang Jindong. This standard replaces the standards previously issued as follows:
 - GB/T 15925-1995. Methods for chemical analysis of antimony ores Determination of antimony content Warning. Use of this standard shall have a person experiences regular laboratory work. This standard does not point out all possible security issues. Users have the responsibility to take appropriate safety and health practices and to ensure compliance with the conditions relevant national regulations.

1 Scope

GB/T 15925-2010 is the Chinese national standard on method for chemical analysis of antimony ores - determination of antimony 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 D42. 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 standard specifies the method for the determination of antimony ore antimony content. This standard applies to the determination of antimony content of antimony ore. Measurement range. more than 0.5% antimony.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard. Laboratory use specifications and test methods

GB/T 6682 Analysis Principle

3 Sample decomposition with sulfuric acid, plus reducing agent Sb (V) reduced to Sb (III), in hydrochloric acid medium, methyl orange as indicator, with cerium sulfate Standard solution titration Antimony (III) to cerium sulfate is reduced to antimony (V), to calculate the amount of antimony.

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 potassium sulfate.

4.2 hydrazine sulfate.

4.3 sulfate ($\rho=1.85\text{g/mL}$).

4.4 sulfate (892). Warning. When diluted improper operation could easily cause burns

4.5 hydrochloride [$c(\text{HCl}) = 2.0\text{mol/L}$].

4.6 methyl orange solution (1g/L) (valid within one month, the end obviously).

4.7 standard ceric sulfate solution [$c(\text{Ce}(\text{SO}_4)_2 \cdot 4\text{H}_2\text{O}) = 0.05\text{mol/L}$].

a) preparation. Weigh 20.2g of cerium sulfate, placed in 250mL beaker, 100mL heated with sulfuric acid (4.4) were dissolved, cooled, transferred to 1000mL Flask with sulfuric acid

(4.4) diluted to the mark, shake;

b) Calibration. Weigh 0.0500g ~ 0.1000g metal antimony (mass fraction $\geq 99.99\%$) in 250mL conical flask, add the amount Hydra Wet, add 15mL sulfuric acid (4.3), covered with a porcelain crucible lid thermal decomposition 0.5h, cooled, hydrochloric acid was added 100mL (4.5), and the solution was heated to boiling, drip 2 drops of methyl orange solution (4.6), constantly shaking immediately with cerium sulfate standard solution (4.7) titration until the solution red disappear shall end, while three calibration, according to equation (1) calculate the cerium sulfate standard solution factor f , Its poor value deviation is less than 0.4% is not met to be re-calibrated, the arithmetic mean, and at the same time a blank test.

$$f = \frac{mV - V_0}{V - V_0} \quad (1)$$