

ICS 73.060

CCS D43



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

**GB/T 17414.1-2010**

Replacing GB/T 17414.1-1998

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**Method for chemical analysis of Beryllium ores - Part 1:  
Determination of Beryllium content - Eriochrome cyanine R  
photometric method**

铍矿石化学分析方法 第1部分：铍量测定 埃利罗菁R光度法

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### Foreword

GB/T 17414 "Method for chemical analysis of beryllium ores" There are two parts.

- Part 1. Determination of the amount of beryllium Aili Luo cyanine R spectrophotometry;
- Part 2. Determination of beryllium by catalytic polarography. This section GB/T Part of 117,414. This Part replaces GB/T 17414.1-1998 "Determination of beryllium ores chemical analysis of beryllium Aili Luo cyanine R spectrophotometric amount." This section compared with the GB/T 17414.1-1998, the main changes are as follows:
  - Modify this part of the English name;
  - Text format has been modified;
  - Formula for calculating the mass fraction represented by the symbol  $w$  instead of  $\omega$  (%);
  - Increased alert, warnings;
  - Increased provision sample;
  - Increased waste disposal provisions. Appendix A of this section is an informative annex. This section presents the People's Republic of China Ministry of Land Resources. This part of the National Standardization Technical Committee under the jurisdiction of Land and Resources. This section is responsible for drafting. National geology test center. This section is drafted. Liaoning Provincial Institute of Geology. The main drafters of this section. Chen Haiying, Wei Zhanwen. This part of the standard replaces the previous editions are.
- GB/T 17414.1-1998. Methods for chemical analysis of beryllium ores Part 1. Determination of the amount of beryllium Aili Luo Jing R spectrophotometry 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 17414.1-2010 is the Chinese national standard on method for chemical analysis of beryllium ores - part 1: determination of beryllium content - eriochrome cyanine R photometric method, 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 D43. 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 17414 provisions of this part of the method for the determination of beryllium in the beryllium ore amount Aili Luo cyanine R spectrophotometry. This section applies to beryllium ore, also applies to lithium, rubidium, cesium and tantalum ore, niobium ore low levels of beryllium contents. Measurement range. 0.0001% to 1.0% (by mass) the amount of beryllium (beryllium oxide dollars).

## 2 Normative references

The following documents contain provisions which, through

GB/T 17414 in this part of the reference in terms 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 Principle

3 Sample with hydrofluoric acid - sulfuric acid decomposition, the insoluble residues of potassium pyrosulfate to melt, hydrochloric acid extracted with disodium edetate, triethanolamine cover Cover aluminum, iron. At pH

5.7 medium, cetyl trimethyl ammonium (CTMAB), Aili Luo Jing R forming blue-violet complex with beryllium It was, in the spectrophotometer at a wavelength of 590nm absorbance was measured to calculate the amount of beryllium. Tartaric acid may be added to accelerate the color, the color of the solution at least 20h more stable.

## 4 Reagents

The reagents used in this section, unless otherwise indicated, the use of analytical chemical reagents and in line with GB/T 6682 analysis laboratory analysis Water.

4.1 potassium pyrosulfate.

4.2 potassium sodium tartrate.

4.3 disodium edetate. Triethanolamine 4.4.

### 4.5 Butyl acetate. Warning. flammable, caution

4.6 Hydrofluoric acid ( $\rho=1.13\text{g/mL}$ ). Warning. toxic and highly corrosive, the operation should wear gloves to prevent skin contact

4.7 sulfate (11). Warning. Under constant stirring to concentrated sulfuric acid was slowly added to the water, be careful

4.8 hydrochloride (11).

4.9 hydrochloride (892).

4.10 nitric acid (11).

4.11 disodium ethylenediaminetetraacetate solution (100g/L).

4.12 acetylacetonate solution (2080).