

ICS 77.120.99

CCS H14



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

GB/T 16484.23-2009

**Chemical analysis methods of rare earth chloride and light rare
earth carbonate - Part 23: Determination of acid insoluble
substance in light rare earth carbonate - Gravimetry**

氯化稀土、碳酸轻稀土化学分析方法 第23部分：碳酸轻稀土中酸不溶物量的测定
重量法

Issued on: October 30, 2009

Implemented on: May 1, 2010

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

Table of Contents

- 1 Scope
- 3 Reagents
- 4 Equipment
- 5 Sample
- 6 Analysis
- 7 Calculation and expression analysis results

Foreword

GB/T 16484-2009 "rare earth chloride and light rare earth carbonate chemical analysis method" is divided into 22 parts.

- Part 1. Determination of cerium oxide content of ammonium ferrous sulfate titration;
- Part 2. europium oxide content - Inductively Coupled Plasma Mass Spectrometry;
- Part 3. 15 with a rare earth element oxide component measured by inductively coupled plasma atomic emission spectrometry;
- Part 4. Determination of thorium oxide content arsenazo III spectrophotometry;
- Part 5. Determination of barium oxide by inductively coupled plasma atomic emission spectrometry;
- Part 6. Determination of calcium oxide content by flame atomic absorption spectrometry;
- Part 7. Determination of magnesium oxide content - Flame atomic absorption spectrometry;
- Part 8. Determination of the amount of sodium oxide flame atomic absorption spectrometry;
- Part 9. Determination of the amount of nickel oxide by flame atomic absorption spectrometry;
- Part 10. Determination of manganese oxide content by flame atomic absorption spectrometry;
- Part 11. Determination of lead oxide content by flame atomic absorption spectrometry;
- Part 12. Determination of the amount of sulfate;
- Part 13. Determination of the amount of ammonium chloride distillation - titration;

1 Scope

GB/T 16484.23-2009 is the Chinese national standard on chemical analysis methods of rare earth chloride and light rare earth carbonate - part 23: determination of acid insoluble substance in light rare earth carbonate - gravimetry, in the field of metallurgy. 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 30 October 2009 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 May 2010. Classification: ICS 77.120.99, CCS H14. 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 16484 provisions of this part of the determination of carbonic acid insoluble light amount of rare earths. This section applies to the determination of acid insoluble carbonate light rare earth, the measurement range. 0.010% to 0.50% Principle

2 The sample was dissolved in hydrochloric acid, insoluble matter was separated by filtration which is calculated by the amount of acid insoluble mass value after drying.

3 Reagents

Hydrochloric acid (1 + 1).

4 Equipment

4.1 electric oven. 200 °C ± 2 °C.

4.2 glass filter (acid filtration funnel). G4.

5 Sample

Weighing the sample immediately after the opening. Step

6 Analysis

6.1 Sample Weigh the sample 5.00g, accurate to 0.0001g.

6.2 Determination of the number of Weigh two samples were measured parallel to the mean value.

6.3 Determination The sample (6.1) in 250mL beaker, add 20mL of hydrochloric acid (3), the sample was dissolved by heating and evaporated to 2mL ~ 3mL, water 30mL ~ 50mL,

micro-heat, use was 105 °C ~ 110 °C sintered glass funnel to constant weight (4.2) by suction, washed with water once to the beaker 3 5, and the insolubles washed 8 to 10 times. The sintered glass funnel (4.2) together with the acid-insoluble matter into the oven (4.1), and at 105 °C ~ 110 °C drying 1.5h, cooled to room temperature in a desiccator, weighed, repeat the operation until the difference between two adjacent mass does not exceed 1mg.

7 Calculation and expression analysis results

According to equation (1) calculate the acid insoluble mass fraction (%). W_1 (acid insoluble)
 $1 - m_1 = m_1 / m_1 \times 100$ (1) Where. M_1 0

--- glass filter mass in grams (g); M_1

--- quality glass sand funnel and acid insoluble in grams (g);