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SN

INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

SN/T 3318.1-2012

Chemical analysis of zircon. Part 1: Determination of Thorium, Uranium. Inductively coupled plasma atomic emission spectrometry

锆英砂化学分析方法 第1部分：钍、铀含量的测定 电感耦合等离子体原子发射光谱法

(English Translation)

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Preview: page 1 of 3 shown, 6 in the full document. Complete English PDF, instant download:
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Table of Contents

Foreword

1 Scope

2 Normative references

4 Reagents and materials

Foreword

This section SN/T 3318 Part 1.

This section drafted in accordance with GB/T 1.1-2009 given rules.

This section proposed and managed by the National Certification and Accreditation Administration Committee.

1 Scope

SN/T 3318 This section provides an inductively coupled plasma atomic emission spectrometry (ICP-AES) Determination of the import and export of thorium zircon sand, the method of uranium content.

This section applies to the import and export of zircon sand thorium, uranium content determination, the detection limit of the elements are as follows. 0.011% thorium, uranium 0.018%.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

Laboratory use specifications and test methods GB/T 6682 Analysis Principle 3 Sample with sodium carbonate - mixing borax flux melting frit leaching with hydrochloric acid, and diluted to a predetermined volume. Inductively coupled plasma Atomic emission spectrometer intensity measured elements, according to the standard solution prepared working curve calculated from the concentration of each element. Then according to the concentration Degree, the quality of the sample and the sample solution volume, calculate the amount of each element in a sample.

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4 Reagents and materials

Unless otherwise indicated, the reagents used were of analytical grade, water as a secondary water GB/T 6682 regulations.

4.1
hydrochloric acid (rho = 1.19g/mL).

4.2
thorium standard solution (national certified reference material). 1000μg/mL.

4.3
uranium standard solution (national certified reference material). 100μg/mL.

4.4
zirconium oxychloride.

4.5
sodium carbonate.

4.6
borax.

4.7
hydrochloride (13).

4.8
Zr substrate solution (1mg/mL). Weigh 3.53g of zirconium oxychloride (4.4), was added 50mLHCl (1 3) (4.7), dissolved by heating, will be Capacity in 1000mL volumetric flask.

4.9
mixed flux. Weigh sodium carbonate (4.6), borax (4.7) by mass ratio of 1/1 were mixed and finely ground, into a plastic bottle into the dryer Saved.

4.10
curve solution. Add 40mL zirconium matrix solution (4.8) in a 100mL flask, 30mLHCl (4.7), 0.8g Mixed flux (4.9), respectively, and then draw a certain amount of each standard solution (4.2, 4.3) in the flask, diluted with water to the mark. Wait

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