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

GB/T 13747.26-2022

**Methods for chemical analysis of zirconium and zirconium alloys - Part
26: Determination of alloying and impurity elements content -
Inductively coupled plasma atomic emission spectrometry**

锆及锆合金化学分析方法 第26部分：合金及杂质元素的测定 电感耦合等离子体
原子发射光谱法

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- 4.00 Ge 0.0050~
- 5.00 Ti 0.0020~

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part

1. Structure and Drafting Rules for Standardization Documents" drafting. This document is part 26 of GB/T 13747 "Methods for Chemical Analysis of Zirconium and Zirconium Alloys". GB/T 13747 has issued the following part.

- 1. Determination of tin content potassium iodate titration method and phenylfluorone-polyethylene glycol octylphenyl ether spectrophotometric method;
- 2. Determination of iron content 1,10-phenanthrene spectrophotometry and inductively coupled plasma atomic emission spectrometry;
- 3. Determination of the amount of nickel - diacetyl oxime spectrophotometry and inductively coupled plasma atomic emission spectrometry;
- 4. Determination of the amount of chromium diphenylcarbazide spectrophotometry and inductively coupled plasma atomic emission spectrometry;
- 5. Determination of aluminum content - spectrophotometric method of chromazurin S-tetradecylpyridinium chloride;
- 6. Determination of copper content 2,9-dimethyl-1,10-phenanthroline spectrophotometric method;
- 7. Determination of manganese content potassium periodate spectrophotometry and inductively coupled plasma atomic emission spectrometry;
- 8. Determination of cobalt content - Nitroso R salt spectrophotometric method;
- 9. Determination of magnesium content by flame atomic absorption spectrometry and inductively coupled plasma atomic emission spectrometry;
- 10. Determination of tungsten content thiocyanate spectrophotometry and inductively coupled plasma atomic emission spectrometry;

11.Determination of the amount of molybdenum thiocyanate spectrophotometry;

12.Determination of silicon content Molybdenum blue spectrophotometry;

1 Scope

GB/T 13747.26-2022 is the Chinese national standard on methods for chemical analysis of zirconium and zirconium alloys - part 26:determination of alloying and impurity elements content - inductively coupled plasma atomic emission spectrometry, 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 December 2022 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 April 2023. 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.

This document describes the determination of aluminum, beryllium, cobalt, copper, chromium, calcium, iron, germanium, Method for hafnium, potassium, lithium, manganese, magnesium, molybdenum, niobium, nickel, sodium, lead, silicon, tin, tantalum, titanium, vanadium, tungsten, zinc content. This document is applicable to the determination of the contents of alloys and impurity elements in zirconium sponge, zirconium and zirconium alloys. The determination range of each element is shown in Table 1. Table

1 Determination range of each element element Measuring range element Measuring range Al 0.0020~

0.10 Mo 0.0020~

0.10 Be 0.0010~

0.020 Nb 0.0050~

35.00 Co 0.00050~

0.10 Ni 0.0010~

0.15 Cu 0.0020~

0.10 Na 0.0010~

0.10 Cr 0.0010~

0.50 Pb 0.0020~

0.10 Ca 0.0020~

0.10 Si 0.0020~

0.10 Fe 0.0050~

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text. Among them, dated references For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to this document.

GB/T 6682 Analytical laboratory water specifications and test methods

GB/T 8170 Numerical rounding off rules and expression and determination of limit values

4.00 Ge 0.0050~

0.10 Ta 0.0020~

0.10 Hf 0.0020~

5.00 Ti 0.0020~

0.10 K 0.0020~

0.020 V 0.0020~

0.10 Li 0.00010~0.0010 W 0.0020~

0.10 Mn 0.0010~

0.10 Zn 0.0010~

0.10 Mg 0.0010~0.10 - -