ICS 77.120.01
CCS H14

# NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA



# GB/T 26289-2010

**Methods for chemical analysis of high purity selenium Determination of boron,aluminum,iron,zinc,arsenic, silver, tin, antimony, tellurium, mercury, magnesium,titanium,nickel,copper,gallium,cadmium,indium,lead and bismuth contents Inductively coupled plasma mass spectrometry**

高纯硒化学分析方法 硼、铝、铁、锌、砷、银、锡、锑、碲、汞、镁、钛、镍、铜、镓、镉、铟、铅、铋量的测定 电感耦合等离子体质谱法

**Issued on: January 14, 2011** **Implemented on: November 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 is in accordance with GB/T 1.1-2009 given rules drafted. This standard by the national non-ferrous metals Standardization Technical Committee (SAC/TC243) centralized. This standard was drafted. Beijing Nonferrous Metal Research Institute. Participated in the drafting of this standard. Beijing Institute of Mining and Metallurgy, Emei Semiconductor Material Factory. The main drafters of this standard. Liu Ying, Gao Yan, Li Jidong, Liu Feng advanced, Wenying, Lihua Chang, Ruan Gui colors. Methods for chemical analysis of high purity selenium Boron, aluminum, iron, zinc, arsenic, silver, tin, antimony, tellurium, mercury, Determination of magnesium, titanium, nickel, copper, gallium, cadmium, indium, lead, bismuth content Inductively Coupled Plasma Mass Spectrometry

## 1 Scope

GB/T 26289-2010 is the Chinese national standard on methods for chemical analysis of high purity selenium determination of boron,aluminum,iron,zinc,arsenic, silver, tin, antimony, tellurium, mercury, magnesium,titanium,nickel,copper,gallium,cadmium,indium,lead and bismuth contents inductively coupled plasma mass 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 14 January 2011 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 November 2011. Classification: ICS 77.120.01, 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 standard specifies the selenium in high purity boron, aluminum, iron, zinc, arsenic, silver, tin, antimony, tellurium, mercury, magnesium, titanium, nickel, copper, gallium, cadmium, indium, lead, bismuth impurity element Measurement method. This standard applies to the measurement of high purity selenium and boron, aluminum, iron, zinc,

arsenic, silver, tin, antimony, tellurium, mercury, magnesium, titanium, nickel, copper, gallium, cadmium, indium, lead, bismuth content set. Determination of the range in Table 1. Table

1 Element measurement range/measuring range of elements% /% B 0.0001 ~ 0.0010 Al 0.00005 ~ 0.0010 Fe 0.00005 ~ 0.0010 Zn 0.00005 ~ 0.0010 As 0.00005 ~ 0.0010 Ag 0.00005 ~ 0.0010 Sn 0.00005 ~ 0.0010 Sb 0.00005 ~ 0.0010 Te 0.00005 ~ 0.0010 Hg 0.00005 ~ 0.0010 Mg 0.00001 ~ 0.00020 Ti 0.00001 ~ 0.00020 Ni 0.00001 ~ 0.00020 Cu 0.00001 ~ 0.00020 Ga 0.00001 ~ 0.00020 Cd 0.00001 ~ 0.00020 In 0.00001 ~ 0.00020 Pb 0.00001 ~ 0.00020 Bi 0.00001 ~ 0.00020 - -

## 2 Method summary

The sample is dissolved in nitric acid, the direct determination of boron, aluminum, iron, zinc, arsenic, silver, tin, antimony, tellurium and mercury content by inductively coupled plasma mass spectrometry; Cation exchange magnesium, titanium, nickel, copper, gallium, cadmium, indium, lead, bismuth and selenium lot separating matrix and is enriched by inductively coupled plasma Determination of magnesium, titanium, nickel, copper, gallium, cadmium, indium, lead and bismuth in mass spectrometry.

## 3 Reagents and materials

Unless otherwise indicated, used in the analysis confirmed only for the gifted class pure reagents; the water is deionized water, the resistivity of not less than 18.2MOmega · cm.

3.1 hydrochloride (rho1.19g/mL). Nitrate 3.2 (rho1.42g/mL).