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

中华人民共和国国家标准

GB/T 23513.5-2009

**Chemical analysis methods for germanium
concentrate—Part 5: Determination of silica
content—Gravimetry**

锗精矿化学分析方法

第 5 部分：二氧化硅量的测定 重量法

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Foreword

GB/T 23513 Chemical analysis methods for germanium concentrate consists of five parts are as follows:

- Part 1: Determination of germanium content—Potassium iodate titration;
- Part 2: Determination of arsenic content—Ferrous ammonium sulfate titration;
- Part 3: Determination of sulfur content—Barium sulfate gravimetry;
- Part 4: Determination of fluoride content—ISE;
- Part 5: Determination of silica content—Gravimetry

This is part five.

This part is proposed by China Nonferrous Metals Industry Association.

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The responsible drafting organizations of this part are Yunnan Lincang Xinyuan Germanium Co., Ltd.

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Chemical analysis methods for germanium concentrate--

Part 5: Determination of silica content--Gravimetry

1 Scope

This part of GB/T 23513 specifies the determination method of silica content in germanium concentrate.

This part applies to the determination of silica content in germanium concentrate.

Determination range: 0.5%-60%.

2 Methods and principles

Melt the sample with sodium hydroxide and sodium peroxide and leach it with water. Then separate the silicic acid dehydrated by adding hydrochloric acid and remove the germanium through volatilization. Add gelatin to condense, filtrate and separate silica gel and then weight it after ashing and burning.

3 Reagents

Only reagents after pure analysis and distilled water or water with equivalent purity can be used in the analysis unless otherwise stated.

3.1 Sodium hydroxide (NaOH).

3.2 Sodium peroxide (Na_2O_2).

3.3 Hydrochloric acid (ρ 1.19 g \cdot mL⁻¹).

3.4 Hydrochloric acid (1 + 3).

3.5 Hydrochloric acid (5 + 95).

3.6 Gelatin solution (1%) and it shall be prepared in using.

4 Analysis steps

4.1 Sample volume

Prepare samples according to Table 1 and it shall accurate to 0.0001g.

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