ICS 77.120.99

H 66

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

中华人民共和国国家标准

GB/T 23513.1-2009

Chemical analysis methods for germanium concentrate—Part 1: Determination of germanium content—Potassium iodate titration

锗精矿化学分析方法

第 1 部分：锗量的测定 碘酸钾滴定法

Issued on April 08, 2009 Implemented on February 01, 2010

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

Standardization Administration of the People's Republic of China

Contents

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 one.

This part is proposed by China Nonferrous Metals Industry Association.

This part is under the jurisdiction of National Technical Committee on Nonferrous Metals of Standardization Administration of China.

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

The participation drafting organizations of this part are Zhongjin Lingnan Shaoguan Melting Factory, Hunan Huaihua Hongjiang Hengchang Germanium Co., Ltd, Nanjing Germanium Co., Ltd and Beijing Guojinghui Infrared Optics Technology Co., Ltd.

The chief drafting staff of this Standard includes Bao Wendong, Li Hecheng, Pu Shikun, Zheng Hong, Gao Mengchao, Wang Jian and Sun Yan.

Chemical analysis methods for germanium concentrate--Part 1: Determination of germanium content—Potassium iodate titration

1 Scope

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

This part applies to the determination of germanium content in germanium concentrate. Determination range: 1.0%-70%.

2 Methods and principles

Melt the sample with sodium hydroxide and use phosphoric acid and potassium permanganate to prohibit the escape of distilled arsenic, distilled antimony, distilled tin and others. Take hypophosphite to return tetravalent germanium to divalent germanium and take starch as an indicator in 3 mol/L of phosphoric acid and 4.5 mol / L of hydrochloric acid and titrate it with standard potassium iodate solution.

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 Potassium iodide (KI).

3.2 Anhydrous sodium carbonate (Na_2C0_3).

3.3 Sodium hydroxide (NaOH).

3.4 Hypophosphite ($NaH_2PO_2 \cdot H_2O$)

3.5 Potassium permanganate ($KMnO_{4)}$.

3.6 Ammonium fluoride (NH_4F).

3.7 Hydrochloric acid (ρ 1. 19 g / mL^{-1}).

北京文心雕语翻译有限公司
Beijing Lancarver Translation Inc.

完整版本请在线下单/Order Checks Online for Full version

联系我们/or Contact:

TEL: 400-678-1309

QQ: 19315219 | Skype: Lancarver

Email：info@lancarver.com

http://www.lancarver.com

线下付款方式：

I. 对公账户：

单位名称：北京文心雕语翻译有限公司

开 户 行：中国工商银行北京学清路支行

账　　号：0200 1486 0900 0006 131

II. 支付宝账户：info@lancarver.com

III. Paypal: info@lancarver.com

注: 付款成功后，请预留电邮，完整版本将在一个工作日内通过电子 PDF 或 Word 形式发送至您的预留邮箱，如需索取发票，下单成功后的三个工作日内安排开具并寄出，预祝合作愉快！

NOTE All documents on the store are in electronic Adobe Acrobat PDF format, there is not sell or ship documents in hard copy. Mail the order and payment information to info@lancarver.com , you will shortly receive an e-mail confirming your order.