ICS 71.040.40
CCS G10

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 23274.5-2009

Methods for chemical analysis of stannic oxide - Part 5: Determination of antimony content - Malachite green photometric method

二氧化锡化学分析方法 第5部分：锑量的测定 孔雀绿分光光度法

Issued on: January 5, 2009 **Implemented on: November 1, 2009**

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

GB/T 23274-2009 "tin oxide chemical analysis method" is divided into eight sections. Part

--- 1. tin oxide amount of potassium iodate titration; Part

--- 2. Determination of iron content - 1,10-phenanthroline spectrophotometry; Part

--- 3. Determination of arsenic content of arsenic and antimony molybdenum blue spectrophotometric method; Part

--- 4. lead and copper contents - Flame atomic absorption spectrometry; Part

--- 5. Determination of antimony content Malachite green spectrophotometry;

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--- 8. Loss on ignition - Gravimetric method. This is Part 5. This part is proposed by the China Nonferrous Metals Industry Association. The non-ferrous metal part by the National Standardization Technical Committee. This section from Yunnan Tin Group Co., Ltd. is responsible for drafting. This section was drafted by Liuzhou China Tin Group Co., Ltd. This section from Yunnan Tin Group Co., Ltd., Yunnan Honghe Entry-Exit Inspection and Quarantine Bureau to participate in the drafting. This part drafters. Lin cream, Luo Peizhen, Yesu Juan, Chen Lin, Jiang Village stretch, Su Yan, Shen Qing, Hu Yu Wei. Tin oxide chemical analysis Part 5. Determination of antimony content Malachite Green Spectrophotometry

1 Scope

GB/T 23274.5-2009 is the Chinese national standard on methods for chemical analysis of stannic oxide - part 5: determination of antimony content - malachite green photometric method, in the field of chemical technology. 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 5 January 2009 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 2009. Classification: ICS 71.040.40, CCS G10. 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 section GB/T 23274 specifies the determination of tin oxide antimony content. This section applies to the determination of tin oxide antimony content was measured in the range of 0.00050% to 0.050%.

2 Principle of the method

Sample with sodium hydroxide melt, flooding, hydrochloric acid, hydrochloric acid medium, extracted with benzene antimony anionic complex with malachite green generated green Complex in a spectrophotometer wavelength of 635nm measured absorbance.

3 Reagents

Test water for the three distilled water.

3.1 over anhydrous sodium sulfate.

3.2 sodium hydroxide.

3.3 hydrochloride (rho1.19g/mL).

3.5 hydrochloric acid (1 + 4).

3.6 hydrochloric acid (1 + 9).

3.7 phosphoric acid (1 + 5).

3.8 stannous chloride solution (100g/L). Weigh 10g of stannous chloride (SnCl2 · 2H2O), added 20mL of hydrochloric acid (3.3), allowed to warm to dissolve, slightly Cold, dilute with water to 100mL, add pure tin (Sn mass fraction 99.999%) the number of tablets.

3.9 sodium nitrite solution (140g/L).

3.10 urea solution (400g/L).

3.11 malachite green solution (2g/L).

3.12 Antimony standard stock solution. Weigh 0.1645g antimony potassium tartrate (KSbOC4H4O6 · 1/2H2O) placed in 250mL beaker, add Into 100mL of hydrochloric acid

(3.5), stirring to dissolve, transferred to 1000mL volumetric flask with hydrochloric acid (3.5) Wash the beaker and dilute to volume, mix uniform. This solution 1mL containing 60μg antimony.

3.13 Antimony standard solution. Pipette 25.00mL antimony standard stock solution (3.12) in 500mL volumetric flask, washed with hydrochloric acid (3.5) diluted to the mark with Degree, and mix. This solution 1mL containing 3μg antimony.

4 Sample

The sample should be sealed packaging. Step