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

SN/T 1031.1-2012

Replacing SN/T 1031.1-2001

**Chemical analysis of crude antimony trioxide for export. Part 1:
Determination of mercury content
(English Translation)**

Issued on: January 1, 1970

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Foreword

SN/T 1031 "chemical analysis of antimony oxide crude exports" is divided into seven parts.

- Part 1. Determination of mercury content;
- Part 2. Determination of total antimony content;
- Part 3. Determination of antimony content;
- Part 4. Determination of fluorine content;
- Part 5. Determination of selenium content;
- Part 6. Determination of lead and iron content;
- Part 7. Determination of arsenic content.

This section SN/T 1031 Part 1.

This section drafted in accordance with GB/T 1.1-2009 given rules.

The partial replacement of SN/T 1031.1-2001 "Determination of export of crude antimony oxide chemical analysis of mercury content." this section compared with the SN/T 1031.1-2001, the main technical changes are as follows.

- Add a description of the preamble;
- Increased Chapter 2, "Normative references";
- Revised Chapter 5, "microwave digestion" of the name and technical specifications (see 5.2), and Chapter 7 to use the power of microwave digestion Rate revised to 320W (see 5.2);
- Clear the Chapter 7 sample weight (see 7.1) and dispensing volume (Table 1);
- Increased Chapter 8 precision instructions.

This section proposed and managed by the National Certification and Accreditation

Administration Committee.

1 Scope

This section SN/T 1031 specifies the use of cold vapor atomic absorption spectrophotometric method to determine the export of crude antimony oxide mercury content.

This section applies to the determination of export crude antimony oxide mercury content. Measurement range. 0.00005% to 0.01% (mass fraction).

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 6379.2 measurement methods and results of Accuracy (trueness and precision) - Part 2. Determine the standard measurement method to repeat of the basic methods of reproduction Laboratory use specifications and test methods GB/T 6682 Analysis

3 Method summary

Samples with hydrochloric acid, tartaric acid and potassium chloride by microwave digestion, the absorbance of the resulting solution was measured by mercury meter in wavelength at 253.7nm degree. On the amount of mercury Richard curve to calculate the mercury content of the sample.

4 Reagents

Unless otherwise noted, all reagents were of analytical grade and water for the three water GB/T 6682 regulations.

4.1

high-purity tin. purity $\geq 99.99\%$.

4.2

mercuric chloride. purity $\geq 99.9\%$.

4.3

hydrochloric acid ($\rho = 1.19\text{g/mL}$).

4.4

nitric acid ($\rho = 1.42\text{g/mL}$).

4.5

potassium chloride solution (20g/L).

4.6

tartaric acid solution (300g/L).

4.7

tartaric acid solution (40g/L).

4.8

potassium permanganate solution (50g/L).

4.9

aqua regia dilutions. Pipette 2mL nitric acid (4.4), 6mL hydrochloric acid (4.3) and 90mL water, and mix.

4.10

stannous chloride solution (100g/L). Weigh 10g of stannous chloride in a beaker, was added 18mL of hydrochloric acid (4.3), dissolved by heating. cold it was diluted to 100mL with distilled water and mix. If precipitation is filtered, add a few grains of high purity tin (4.1) and transferred to a brown bottle to save.

4.11

Mercury standard stock solution (1.0mg/mL). Weigh 0.1354g sulfated drier mercuric chloride (4.2) in 100mL burn Cup, add 6mL hydrochloric acid (4.3) and 2mL nitric acid (4.4), placed on a steam bath to dissolve. Cooled and transferred to 100mL volumetric flask