

ICS 77.120.99
CCS H 17

YS

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

YS/T 519.3-2009

Replacing YS/T 519.3-2006

**Methods for chemical analysis of arsenic. Part 3: Determination
of sulfur content. Barium sulphate gravimetric method**

砷化学分析方法 第3部分：硫量的测定硫酸钡重量法

(English Translation)

Issued on: December 4, 2009

Implemented on: June 1, 2010

Issued by: Ministry of Industry and Information Technology

Table of Contents

Foreword
1 Scope
2 Method summary
3 Reagents
4 Instrument
5 Sample
6 Step, Analysis
6.1 Sample
6.2 Blank test
6.3 Determination

Foreword

YS/T 519-2009 "chemical analysis of arsenic" is divided into four parts.

- Part 1. Determination of arsenic content potassium bromate titration;
- Part 2. Determination of antimony content - Malachite green spectrophotometry;
- Part 3. Determination of sulfur content of barium sulfate gravimetric method;
- Part 4. bismuth, antimony, sulfur content - Inductively coupled plasma atomic emission spectrometry.

This section YS/T 519 Part 3.

The partial replacement of YS/T 519.3-2006 (formerly GB/T 4373.3-1984) "Determination of Arsenic in chemical analysis of barium sulfate gravimetric method Sulfur content. "

Compared with YS/T 519.3-2006, this section has the following changes.

- Sample size proposed new requirements, the specimen shall be subject to an 80-mesh sieve, diameter of not more than 2mm, to sample all through 0.84mm sieve, and then 0.42mm sieve;
- Symmetry like proportions were modified by the press on the screen and under the screen ratio of 3 Weigh, modify according to the actual proportion sieve weighed;
- Blank test sample is weighed with the same amount of arsenic substrate by;
- Text format has been modified;

--- Complements the precision, quality assurance and control provisions.

The non-ferrous metal part by the National Standardization Technical Committee and centralized.

This section is responsible for drafting unit. Hunan Nonferrous Metals Group Co., Ltd. Shuikoushan.

Participated in the drafting of this section. Zhuzhou Smelter Group Co., Ltd., Hunan Nonferrous Metal Research Institute.

1 Scope

YS/T 519 This part specifies the determination of arsenic in sulfur content.

This section applies to the determination of arsenic in sulfur content. Measurement range. 0.10 to 0.50%.

2 Method summary

Sample with nitric acid - a saturated solution of potassium chlorate is dissolved, adding hydrochloric acid and evaporated to dryness at approximately 0.2mol/L hydrochloric acid solution of barium chloride was added to make pH Generate barium sulfate precipitation, filtration, burning, weighing quality barium sulfate obtained sulfur content.

3 Reagents

Analysis process unless otherwise specified, all reagents and analytical use distilled water or water of equivalent purity.

3.1

high-purity arsenic ($As \geq 99.999\%$).

3.2

potassium chlorate.

3.3

hydrochloride ($\rho 1.19\text{g/mL}$).

3.4

nitric acid - a saturated solution of potassium. The potassium chlorate was added nitric acid ($\rho 1.42\text{g/mL}$), stirred to dissolve, until there is an excess of solid chlorine Insoluble potassium date (two weeks available).

3.5

barium chloride solution (100g/L). Use filtered.

3.6

silver nitrate solution (10g/L).

4 Instrument

4.1

Analytical balance (the amount being 0.1mg).

4.2

muffle furnace (temperature can be controlled within a range of 800 °C ~ 850 °C).

5 Sample

The sample was processed into all over the 0.84mm sieve-like crumbs, and then 0.42mm sieve, the sample points sieve, sieve, respectively, into grinding mouth Bottle, sealed with paraffin. Processing should prevent overheating oxidation.

6.3 Determination

6.3.1

The sample (6.1) in 400mL beaker, wetted with a small amount of water, constantly shaking slowly added 25mL of nitric acid - potassium chlorate