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YS

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

YS/T 556.8-2009

Replacing YS/T 556.8-2006

**Methods for chemical analysis of antimony concentrates. Part
8: Determination of sulfur content. Combustion-neutralization
titrimetric method**

锑精矿化学分析方法 第8部分：硫量的测定燃烧中和法

(English Translation)

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Foreword

YS/T 556-2009 "Methods for chemical analysis of antimony concentrate," a total of 16 parts.

- Part 1. Determination of antimony content cerium sulfate titration;
- Part 2. Determination of arsenic content potassium bromate titration;
- Part 3. Determination of lead content by flame atomic absorption spectrometry;
- Part 4. Wet water storage Gravimetric method;
- Part 5. Determination of zinc content - Flame atomic absorption spectrometry;
- Part 6. Determination of the amount of selenium by hydride generation - atomic fluorescence spectrometry;
- Part 7. Determination of the amount of mercury atomic fluorescence spectrometry;
- Part 8. Determination of sulfur content - Combustion neutralization method;
- Part 9. Determination of the amount of gold fire assay;
- Part 10. Determination of copper content - Flame atomic absorption spectrometry;
- Part 11. Determination of cadmium content by flame atomic absorption spectrometry;
- Part 12. Determination of bismuth content by flame atomic absorption spectrometry;
- Part 13. Determination of nickel content by flame atomic absorption spectrometry;
- Part 14. Determination of the amount of silver by flame atomic absorption spectrometry;
- Part 15. antimony, tin measured by hydride generation - atomic fluorescence spectrometry;
- Part 16. Determination of antimony metal content by inductively coupled plasma emission spectrometry.

This section YS/T 556 Part 8.

"Antimony concentrates - Determination of sulfur content" in this section instead of YS/T 556.8-2006 (formerly GB/T 15080.8-1994).

Compared with YS/T 556.8-2006, this part of the following changes.

--- Text format has been modified;

--- Complements the precision and 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. tin mine Twinkling Star Antimony Industry Co., Ltd., Beijing General Research Institute of Mining and Metallurgy.

1 Scope

This section YS/T 556 specifies the method for determination of antimony concentrate sulfur content.

This section applies to the determination of antimony concentrate sulfur content. Measuring range. 1.00% - 30.00%.

2 Method summary

Sample combustion in high temperature oxygen stream is converted to sulfur dioxide, hydrogen peroxide absorbed and oxidized to sulfuric acid, methyl red - methylene Blue mixed indicator solution, titration with sodium hydroxide standard titration solution to the solution from purple into a bright green is the end.

3 Reagents

Unless otherwise indicated, the reagents used in this section refer to water and analytical grade and third grade water.

3.1

potassium hydroxide.

3.2

anhydrous calcium chloride.

3.3

hydrogen peroxide solution (19 + 1).

3.4

phenolphthalein indicator (10g/L ethanol).

3.5

methyl red - methylene blue mixed indicator. 20 parts of methyl red ethanol solution (0.3g/L) and 3 parts of methylene blue solution (1g/L) and mixed.

3.6

standard titration solution of sodium hydroxide (NaOH Ba about 0.2mol/L).

3.6.1

preparation. Weigh 8g sodium hydroxide, placed 250mL beaker, after cooling with boiling water dissolved and transferred to 1000mL volumetric flask and treated with cooled boiled water to dilute to the mark and mix. Stored in plastic bottles.

3.6.2

Calibration. Weigh 1.0000g three previously 100 °C ~ 105 °C drying 2h potassium hydrogen phthalate (reference reagent) and placed 300mL conical flask, add water to dissolve 60mL, add 2 drops of phenolphthalein (3.4), (3.6) titrated with sodium hydroxide standard titration solution to light red is the end.

Along with the calibration blank test.

According to equation (1) calculate the standard volumetric sodium hydroxide solution (3.6) of the actual concentration.

Where.

Ba --- sodium hydroxide standard titration solution (3.6) of the actual concentration in units of moles per liter (mol/L);

Vp 1 --- titrated solution of potassium hydrogen phthalate volume of sodium hydroxide standard titration solution (3.6) consumed in milliliters (mL);

V0 --- calibration blank solution volume of sodium hydroxide standard titration solution (3.6) consumed in milliliters (mL);

204.2 --- molar mass of potassium hydrogen phthalate, in units of grams per mole (g/mol).

Average the three calibration results as sodium hydroxide standard titration solution (3.6) of the actual concentration. Parallel calibration of the sodium consumed Poor value volume of Standard Solution (3.6) does not exceed 0.10mL.

4 Device

The apparatus used in Figure 1.