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

YS/T 520.11-2007

Replacing YS/T 520.11-2006

**Chemical analysis of gallium. Part 11: Determination of mercury
content. The cold vapor atomic absorption spectral method**

镓化学分析方法 第11部分：汞含量的测定冷原子吸收光谱法

(English Translation)

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Foreword

YS/T 520-2007 "Chemical analysis of gallium" is the YS/T 520-2006 (formerly GB/T 4375-1984) amendments, divided into Part 12.

--- Part 1. Determination of copper content of 2,9-dimethyl-4,7-diphenyl-1,10-phenanthroline spectrophotometry

--- Part 2. Determination of lead content of 4-(2-pyridyl) - resorcinol spectrophotometry

--- Part 3. Determination of aluminum content Chromazurol S- tetradecyl pyridine bromide spectrophotometric method

--- Part 4. Determination of iron content of 4,7-diphenyl-1,10-phenanthroline spectrophotometry

--- Part 5. Determination of calcium content nitrous oxide - acetylene flame atomic absorption spectrometry

--- Part 6. Determination of tin content salicylfluorone - cetyl trimethyl ammonium bromide, spectrophotometry

--- Part 7. Determination of silicon content extraction - molybdenum blue spectrophotometric method

--- Part 8. Determination of indium content of ethyl violet spectrophotometry

--- Part 9. Determination of germanium content Phenylfluorone - polyethylene glycol octyl phenyl ether extraction spectrophotometric method

--- Part 10. Determination of zinc content atomic absorption spectrometry

--- Part 11. Determination of mercury content of the cold atomic absorption spectrometry

--- Part 12. lead, copper, nickel, aluminum, indium and zinc Determination of chemical spectroscopy this is Part 11.

The partial replacement of YS/T 520.11-2006 (formerly GB/T 4375.11-1984).

This part is YS/T 520.11-2006 "Determination of cold Chemical analysis of gallium Part 11 of mercury content by atomic absorption spectrometry Law "editorial finishing.

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

This standard by the Aluminum Corporation of China Shandong branch responsible for drafting.

This section drafters. Zhang Xinyu, Liu Yulong.

The non-ferrous metal part by the National Standardization Technical Committee responsible for the interpretation.

This part of the standard replaces the previous editions are.

--- YS/T 520.11-2006 (formerly GB/T 4375.11-1984).

Chemical analysis of gallium Part 11. Determination of mercury content Cold vapor atomic absorption spectrometry

1 Scope

This section provides the determination of gallium mercury content.

This section applies to the determination of gallium mercury content. Measurement range. ~ 0.00002% 0.00010%.

2 Method summary

Sample was dissolved in nitric acid, sulfuric acid. Stannous chloride as a reducing agent, using air as a carrier gas, and the resulting mercury vapor atomic mercury vapor measured Import Meter were measured.

3.1 Nitric acid, pure class distinctions (rho1.42g/cm

3.2 sulfuric acid, pure class distinctions (1 + 1).

3.3 sulfuric acid, pure class distinctions (1 + 35).

3.4 stannous chloride solution (10%). Weigh 10g of stannous chloride ($\text{SnCl}_2 \cdot 2\text{H}_2\text{O}$) was dissolved in 100mL of hydrochloric acid (1 + 1). time cost Now equipped.

3.5 Storage mercury standard solution. Weigh 1.0000g pure mercury spectrum [(Hg) $\geq 99.99\%$], placed in 250mL beaker, add 20mL ~ 30mL of nitric acid (1 + 1), the hood to slowly dissolved by heating, to be dissolved completely after dilution with water, transferred to 1000mL capacity Flask and dilute with water to volume, and mix. This solution 1mL

containing 1.0mg of mercury.

3.6 mercury standard solution. Pipette 10.00mL mercury standard stock solution (3.5), placed in 100mL flask, nitric acid is added 1mL (3.1), dilute to the mark and mix. This solution 1mL containing 100 μ g mercury.

3.7 mercury standard solution. Pipette 10.00mL mercury standard solution (3.6), placed in 100mL flask, add 1mL of nitric acid (3.1), with Dilute with water to volume, and mix. This solution 1mL containing 10 μ g mercury.

3.8 mercury standard solution. Pipette 10.00mL mercury standard solution (3.7), placed in 100mL flask, add 1mL of nitric acid (3.1), with Dilute with water to volume, and mix. This solution 1mL containing 1 μ g mercury.

3.9 Compressed air (cylinders loaded, or produced by the air compressor).

4 Instruments and apparatus

Mercury vapor meter and ancillary equipment is shown in Figure 1.