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YS

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

YS/T 520.8-2007

Replacing YS/T 520.8-2006

**Chemical analysis of gallium. Part 8: Determination of indium
content. The ethyl violet spectrophotometric method**

镓化学分析方法 第8部分：铟含量的测定乙基紫分光光度法

(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 section 8.

The partial replacement of YS/T 520.8-2006 (formerly GB/T 4375.8-1984).

This part is YS/T 520.8-2006 "Chemical analysis of gallium - Part 8. Determination of indium content of ethyl violet spectrophotometry" 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.

Drafters of this section. Chen Jianli, Zang Muwen, Sun Guo, Zhao Shali.

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 520.8-2006 (formerly GB/T 4375.8-1984).

Chemical analysis of gallium Part 8. Determination of indium content Ethyl Violet spectrophotometry

1 Scope

This section specifies the determination method gallium indium content.

This section applies to the determination of gallium indium content. Measurement range. 0.0005% to 0.040%.

This section does not apply to the determination of thallium-containing gallium indium content.

2 Method summary

Sample with nitric acid, sulfuric acid dissolved, hydrobromic acid, sulfuric acid to remove smoke tin, mercury bromide. Added 1.5mol/L sulfuric acid medium the potassium iodide, ethyl violet, indium generate ionic association, extracted with benzene. 619nm wavelength spectrophotometer measured absorbance.

3 Reagents

3.1

benzene.

3.2

ethanol.

3.4 Hydrobromide (rho1.49g/cm

3.5 sulfate (1 + 1).

3.6 sulfate (1 + 2).

3.7 HCl (1 + 1).

3.8 potassium iodide solution (6mol/L). the time is now equipped with.

3.9 sodium thiosulfate solution (20g/L).

3.10 ethyl violet solution (2g/L).

3.11 indium standard stock solution. Weigh 0.1209g spectroscopically pure indium oxide $[(\text{In}_2\text{O}_3) \geq 99.99\%]$, hydrochloric acid was added 10mL (3.7), on a water bath heated to dissolve, add 50mL sulfuric acid (3.5) and evaporated to smoke, remove the cooling water of dissolved salts and moved 1000mL volumetric flask, dilute with water to volume, and mix. This solution 1mL containing 100 μ g of indium.

3.12 Indium standard solution. Pipette 50.00mL an indium standard stock solution (3.11) was placed in 500mL volumetric flask, add 10mL sulfuric acid (3.5), dilute to the mark and mix. This solution 1mL containing 10 μ g indium.

4 Instrument

Spectrophotometer.

5 Sample

The samples in sealed Teflon bottle, placed in 50 °C water bath until the sample is completely converted to a liquid state, shaken, cooled to Room temperature before use.

6 Step, Analysis

6.1

Determination of the number of Independently measured twice and averaged.