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

YS/T 520.10-2007

Replacing YS/T 520.10-2006

**Chemical analysis of gallium. Part 10: Determination of zine
content. The atomic absorption spectral method**

镓化学分析方法 第10部分：锌含量的测定原子吸收光谱法

(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 section 10.

The partial replacement of YS/T 520.10-2006 (formerly GB/T 4375.10-1984).

This part is YS/T 520.10-2006 "Chemical analysis of gallium Part 10. Determination of zinc content atomic absorption spectrometry" 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, Wang Shue, Zhao Shali, Sun Guo.

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 520.10-2006 (formerly GB/T 4375.10-1984).

Chemical analysis of gallium Part 10. Determination of zinc content Atomic Absorption Spectrometry

1 Scope

This section provides the determination of gallium zinc content.

This section applies to the determination of zinc content in gallium. Measurement range. 0.0005% to 0.020%.

2 Method summary

Sample decomposition with nitric acid and hydrochloric acid. Hydrochloric acid and nitric acid to get rid of. 7mol L hydrochloric acid solution in/in After isopropyl ether extraction and separation of gallium, in the original Sub absorption spectrophotometer at a wavelength of 213.9nm, air - acetylene flame measured zinc.

3.2 Hydrochloric acid, pure class distinctions (rho1.19g/cm

3.3 hydrochloric acid (10 + 7).

3.4 isopropyl ether. in a separatory funnel and washed first with a solution of hydroxylamine hydrochloride oscillation (100g/L) or ferrous ammonium sulfate solution (200g/L) was

removed through Oxide, and then transferred to a distillation flask, on a water bath at 80 °C purified by distillation, collecting fractions of 67 °C ~ 69 °C. Then hydrochloric acid (3.2) saturated.

3.5 standard zinc stock solution. Weigh 1.0000g spectra of pure zinc [(Zn) $\geq 99.99\%$] was dissolved in 50mL of hydrochloric acid (1 + 1). cool down, Water moved into 1000mL volumetric flask, dilute to volume, and mix. This solution 1mL containing 1.0mg zinc.

3.6 Zinc standard solution. Pipette 50.00mL standard zinc stock solution (3.5), placed in 500mL flask, diluted with water to the mark. mix Uniform, 1mL solution containing 100 μ g zinc.

4 Instrument

Atomic absorption photometer.

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.

6.2 Sample

Table 1 sample was weighed, accurate to 0.0001g.