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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 5121.10-2008

Replacing GB/T 5121.10-1996; GB/T 13293.9-1991

**Methods for chemical analysis of copper and copper alloys --
Part 10: Determination of tin content**

铜及铜合金化学分析方法 第10部分：锡含量的测定

(English Translation)

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Foreword

GB/T 5121 "Copper and copper alloy chemical analysis method" a total of 27 sections.

- Part 1. Determination of copper content;
- Part 2. Determination of phosphorus content;
- Part 3. Determination of lead content;
- Part 4. Carbon, Determination of sulfur content;
- Part 5. Determination of nickel content;
- Part 6. Determination of bismuth content;
- Part 7. Determination of arsenic content;
- Part 8. Determination of oxygen content;
- Part 9. Determination of iron content;
- Part 10. Determination of tin content;
- Part 11. Determination of zinc content;
- Part 12. Determination of antimony content;
- Part 13. Determination of aluminum content;
- Part 14. Determination of manganese content;
- Part 15. Determination of cobalt content;
- Part 16. Determination of chromium content;
- Part 17. Determination of beryllium content;
- Part 18. Determination of magnesium content;
- Part 19. Determination of silver content;

- Part 20. Determination of zirconium content;
- Part 21. Determination of titanium content;
- Part 22. Determination of cadmium content;
- Part 23. Determination of silicon content;
- Part 24. selenium, tellurium content was measured;
- Part 25. Determination of boron content;
- Part 26. Determination of mercury content;
- Part 27. Inductively coupled plasma atomic emission spectrometry.

This section 10.

This section includes a method, second method, Method three. Tin content at 0.0010% ~ 0.0020% or arbitration, recommended the use of square Act II.

This section Method three modifications adopted ISO 3111. 1975 "copper-tin alloy --- Determination of the capacity of law", the main technical content on the ISO 3111. 1975 the same structure does not correspond exactly to write. Specific technical difference in Appendix A, Appendix B.

This Part replaces GB/T 5121.10-1996 "Copper and copper alloys - Determination of tin content" and GB/T 13293.9-1991 "Methods for chemical analysis of high purity copper cathode Zeeman effect electrothermal atomic absorption spectrometric method for the determination of tin content." this portion of the GB/T 13293.9-1991, GB/T 5121.10-1996 compared to the main changes are as follows.

--- One method of GB/T 13293.9-1991 amendment complements the quality assurance and control provisions, increasing the precision of the terms;

--- Second method is GB/T 5121.10-1996 "on the first chapter 1 Phenylfluorone - polyethylene glycol octyl phenyl ether points Spectrophotometric method "amendment complements the quality assurance and control provisions, increasing the precision of the terms;

--- Method three is GB/T 5121.10-1996 in the revised "The second method potassium iodate titration method", complementing the quality assurance Certification and control provisions, increasing the precision of the terms.

This section in Appendix A, Appendix B is an informative annex.

This part is proposed by the China Nonferrous Metals Industry Association.

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

This section Chinalco Luoyang Copper Co., Ltd., Beijing General Research Institute of

Mining and Metallurgy, China Nonferrous Metals Industry is responsible Institute of Standards Metrology and Quality Drafted.

A method in this section was drafted by Beijing General Research Institute of Mining and Metallurgy.

A method in this section by the Guangzhou Research Institute of Nonferrous Metals, Jinchuan Group Ltd participated in the drafting.

1.1 Scope

This method specifies the method for determination of copper and tin in copper alloy content.

This method is applicable to the determination of copper and tin in copper alloy content. Measurement range. 0.0001% to 0.0020%.

1.2 Principle of the method

Sample was dissolved in nitric acid, a volume of the test solution injected into the electrothermal atomizer with Zeeman effect atomic absorption spectrometer 224.6nm wavelength measuring the absorbance of tin, calculated tin content by working curve method.

1.3 Reagents

Unless otherwise indicated in the analysis using only recognized as analytical grade reagents and distilled or deionized water or equivalent purity. experiment the utensils were soaked 12h, washed thoroughly with water and nitric acid (1.3.4).

1.3.1

Copper (Cu mass fraction $\geq 99.99\%$, tin content of