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

GB/T 10574.14-2017

**Methods for chemical analysis of tin-lead solders - Part 14:
Determination of tin, lead, antimony, bismuth, silver, copper, zinc, cadmium
and arsenic content - Optical emission spectrometry**

锡铅焊料化学分析方法 第14部分：锡、铅、锑、铋、银、铜、锌、镉和砷量的测定 光电发射光谱法

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Foreword

GB/T 10574 "tin-lead solder chemical analysis method" is divided into 14 parts.

- Part 1. Determination of tin content potassium iodate titration;
- Part 2. Determination of the amount of antimony Malachite green spectrophotometry and potassium bromate titration;
- Part 3. Determination of bismuth content by flame atomic absorption spectrometry;
- Part 4. Determination of iron content 1,10-phenanthroline spectrophotometry;
- Part 5. Determination of arsenic; Arsenic antimony molybdenum blue spectrophotometry;
- Part 6. Determination of copper content by flame atomic absorption spectrometry;
- Part 7. Determination of silver content flame atomic absorption spectrometry and potassium thiocyanate potentiometric titration;
- Part 8. Determination of zinc content by flame atomic absorption spectrometry;
- Part 9. Determination of aluminum content by electrothermal atomic absorption spectrometry;
- Part 10. Determination of cadmium content Flame Atomic Absorption Spectrometry and Na₂ EDTA titration;
- Part 11. Determination of phosphorus content crystal violet - vanadium molybdovanadophosphoric acid spectrophotometry;
- Part 12. Determination of sulfur content; high frequency combustion infrared absorption spectrometry;
- Part 13. Determination of antimony, bismuth, iron, arsenic, copper, silver, zinc, aluminum, cadmium, phosphorus and gold content Inductively coupled plasma atomic emission Spectrum method

1 Determination of the scope of the elements Element wx /% Sn 29.50 ~

GB/T 10574.14-2017 is the Chinese national standard on methods for chemical analysis of tin-lead solders - part 14: determination of tin, lead, antimony, bismuth, silver, copper, zinc, cadmium and arsenic content - optical emission spectrometry, in the field of metallurgy. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 14 October 2017 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 May 2018. Classification: ICS 77.120.60, CCS H13. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

67.00 Pb 32.50 ~

69.00 Sb 0.0030 ~

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 8012-2000 cast tin-lead solder

GB/T 8170 rounded repair rules and limit values of the representation and judgment YB/T 4142 Spectral analysis of data using statistical rules YB/T 4144 Establish and control spectral chemical analysis of working curve rules

2.80 Bi 0.0030-

0.30 Ag 0.0002 ~

0.055 Cu 0.0008 ~

0.15 Zn 0.0002 ~

0.045 Cd 0.0002 ~

0.020 As 0.0003 ~ 0.030

3 Method summary

The prepared massive sample was used as one electrode, a light source generator was used to excite the light between the sample and the counter electrode, and the light beam was introduced Splitting chamber, after the spectral dispersion of the system to form a spectrum, the selected spectral lines through the photoelectric conversion system and measurement system for photoelectric conversion and measurement Spectral line intensity, according to the working curve of the standard sample to determine the mass fraction of the test element in the sample.