

ICS 77.120.60

CCS H13



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

GB/T 10574.12-2017

Replacing GB/T 10574.12-2003

**Methods for chemical analysis of tin-lead solders - Part 12:
Determination of sulfur content - High frequency combustion
with infrared absorption method**

锡铅焊料化学分析方法 第12部分：硫量的测定 高频燃烧红外吸收光谱法

Issued on: October 14, 2017

Implemented on: May 1, 2018

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China;
Standardization Administration of China**

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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 Scope

GB/T 10574.12-2017 is the Chinese national standard on methods for chemical analysis of tin-lead solders - part 12: determination of sulfur content - high frequency combustion with infrared absorption method, 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.

GB/T 10574 provisions of this part of the tin-lead solder in the amount of method. This section applies to the determination of sulfur in tin-lead solder. Measurement range. 0.00010% ~ 0.025%.

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 6379.2 accuracy of measurement methods and results (accuracy and precision) Part 2. Determination of standard measurement methods repeated The basic method of sexuality and reproducibility

GB/T 6682 analytical laboratory water specifications and test methods

GB/T 8012 cast tin-lead solder JJG395 fixed carbon sulfur analyzer verification procedures

3 Method summary

In the presence of a flux, the sample is heated and combusted in a stream of oxygen in a high frequency induction furnace and the resulting sulfur dioxide is carried from oxygen to infrared Measuring room of the device. Sulfur dioxide absorbs infrared energy at a specific wavelength, its absorbance is proportional to the mass of sulfur, derived from the absorbance of sulfur quality.

4 Reagents and materials

Unless otherwise indicated, all reagents are analytical grade reagents, water is in line with

the provisions of GB/T 6682 secondary water.

4.1 Anhydrous magnesium perchlorate Particle size 0.7mm ~ 1.2mm.

4.2 asbestos. Granular.

4.3 Pure tungsten flux Sulfur content of less than 0.0002%.

4.4 pure iron flux. Sulfur content of less than 0.0005%.

4.5 tin capsule capacity of about 0.4mL.

4.6 sulfur standard solution 0.5445g has been dried at 105 °C 2h potassium sulfate (content greater than 99.9%) was dissolved in water, transferred to 500mL Volumetric flask, diluted with water to the mark, mix well. This solution 1 mL contains

0.2 mg sulfur.

4.7 sulfur standard solution Pipette 50.00mL sulfur standard solution (4.6) in 500mL volumetric flask, diluted with water to the mark, and mix. This solution Liquid 1 mL contains

0.02 mg sulfur.

4.8 Standard substance The same type of certified reference substance (CRM) or standard substance (RM) of the same type as the sulfur content of the sample to be tested.

4.9 Pure oxygen Purity (volume fraction) of not less than 99.995%.