

ICS 25.160.20

CCS H13



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

GB/T 10574.7-2017

Replacing GB/T 10574.7-2003

**Methods for chemical analysis of tin-lead solders - Part 7:
Determination of silver content - Flame atomic absorption
spectrometry and potassium thiocyanate potentiometric titration**

锡铅焊料化学分析方法 第7部分：银量的测定 火焰原子吸收光谱法和硫氰酸钾电
位滴定法

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**

Table of Contents

- 1 Scope
- 2 Normative references
- 3.2.1 Hydrobromic acid (p =
- 3.2.2 Hydrochloric acid (p =
- 3.2.3 Nitric acid (p =

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 10574.7-2017 is the Chinese national standard on methods for chemical analysis of tin-lead solders - part 7: determination of silver content - flame atomic absorption spectrometry and potassium thiocyanate potentiometric titration, in the field of manufacturing engineering. 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 25.160.20, 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.

3.1 Method summary The sample was dissolved with hydrobromic acid, hydrochloric acid and hydrogen peroxide, tin was separated by volatilization with hydrochloric acid-hydrobromic acid, and air-acetylene Flame, in the atomic absorption spectrometer wavelength of 328.1nm at the determination of silver absorbance.

3.2 Reagents Unless otherwise specified, only reagents identified as analytically pure and distilled or deionized water or rather pure water are used in the assay.

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 cast tin-lead solder

3.2.3 Nitric acid (p =

3.2.4 Hydrogen peroxide (30%, commercially available).

3.2.5 Hydrochloric acid (1 4).

3.2.6 Nitric acid (13).

3.2.7 Nitric acid (1 19).

3.2.8 Hydrogen peroxide (1 2).

3.2.9 silver standard storage solution Weigh 1.0000g silver metal (wAg >= 99.99%) placed in 250mL beaker, add 50mL nitric acid (3.2.6). Cover the watch glass and heat to low

temperature to dissolve completely. Boil the nitrogen oxide. Remove and cool to room temperature and wash the watch glass with water And cup wall, into a 1000mL volumetric flask, diluted with nitric acid (3.2.7) to the mark, mix well, protected from light. This solution contains 1mL 1mg silver.

3.2.10 silver standard solution Pipette 10.00mL silver standard stock solution (3.2.9) in 1000mL volumetric flask, diluted with hydrochloric acid (3.2.5)