

ICS 77.120.60
CCS H 13



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

GB 4103.10-1983

Replacing GB/T 4103.10-2000

**Methods for chemical analysis of lead and lead alloys -- Part 10:
Determination of silver content
(English Translation)**

Issued on: January 1, 1970

Implemented on: January 1, 1970

Issued by: Standardization Administration of China

Table of Contents

Foreword
1 Scope
2 Normative references
3 General
4.1 Determination of Range
4.2 Principle
4.3 Reagents

Foreword

GB/T 4103 "Methods for chemical analysis of lead and lead alloys" is divided into 16 parts.

- Part 1. Determination of tin content;
- Part 2. Determination of antimony content;
- Part 3. Determination of copper content;
- Part 4. Determination of iron content;
- Part 5. Determination of bismuth content;
- Part 6. Determination of arsenic content;
- Part 7. Determination of the amount of selenium;
- Part 8. Determination of tellurium content;
- Part 9. Determination of calcium;
- Part 10. Determination of the amount of silver;
- Part 11. Determination of zinc content;
- Part 12. Determination of thallium content;
- Part 13. Determination of aluminum content;
- Part 14. Determination of cadmium content by flame atomic absorption spectrometry;
- Part 15. Determination of nickel content by flame atomic absorption spectrometry;
- Part 16. copper, silver, bismuth, arsenic, antimony, tin, zinc contents Optical emission spectroscopy.

This is Part 10 GB/T 4103's.

This Part replaces GB/T 4103.10-2000 "of lead and lead alloys - Determination of silver content", and GB/T 4103.10-Compared to 2000, the main changes are as follows.

--- Additional fire assay Determination of silver content;

--- Measuring range extended from 0.0003% to ~ 1.5 to 0.0003% to 2.0%, by flame atomic absorption spectrometry - 0.0003% Adjusted 1.5% to 0.0003% to 0.50%, measured fire assay ranges from > 0.50% to 2.00%;

--- Supplementary terms of precision.

The non-ferrous metal part by the National Standardization Technical Committee (SAC/TC243) centralized.

This section is responsible for drafting unit. Zhuzhou Smelter Group Co., Ltd., Beijing Mining Research Institute, Shaanxi Dongling Smelting Co., Ltd., White Silver colored copper Northwest Limited.

A method of drafting this section. Henan Yuguang Gold & Lead Co., Lingnan Shaoguan smelter, Beijing Mining Research Institute, Zhu Zhou Smelter Group Co., Ltd., Hunan Nonferrous Metals Group Co., Ltd. Shuikoushan.

This section Method two drafting units. Lingnan Shaoguan smelter, Beijing Mining Research Institute, Zhuzhou Smelter Group Co., Ltd.

1 Scope

This section GB/T 4103 provisions of the determination of lead and lead alloys in silver content.

This section applies to the determination of lead and lead alloys in silver content.

2 Normative references

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

GB/T 6682 analytical laboratory use specifications and test methods (ISO 3696) GB/T 12806 laboratory glassware single marking flask (ISO 1042) GB/T 12808 laboratory glassware single marking pipette (ISO 648) GB/T 12809 Laboratory glassware Glass Container design and construction principles (ISO 384) GB/T 12810 laboratory glassware gauge capacity calibration and use (ISO 4787)

3 General

3.1

Unless otherwise stated, the use of analytical reagent only recognized in the analysis; the water is distilled or deionized water or equivalent purity, shall comply with the provisions of GB/T 6682's.

3.2

instruments shall be within the test cycle, the performance indicators should meet the technical parameters required for verification; glass containers GB/T 12808, GB/T 12809, GB/T 12806 specified in Class A, with reference to the specific use requirements GB/T 12810 in.

4 a method of flame atomic absorption spectrometry

4.1 Determination of Range

This method is applicable to the determination of lead and lead alloys in silver content. Determination of silver range 0.0003 to 0.50% (mass fraction).

4.2 Principle

The sample is dissolved in nitric acid, tartaric acid in dilute nitric acid medium, using air - acetylene flame atomic absorption spectrometer wavelength 328.1nm Absorbance was measured at silver.

4.3 Reagents

4.3.1

nitrate ($\rho=1.42\text{g/mL}$), pure class distinctions.

4.3.2

nitric acid (11).

4.3.3

nitric acid (13).

4.3.4

mixed acid. Weigh 30g tartaric acid dissolved in 200mL of water, 100mL added nitric acid (4.3.1).