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CCS Y88



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

GB/T 11886-2015

Replacing GB/T 11886-2001

Silver jewellery alloys - Determination of silver - Volhard method

银合金首饰 银含量的测定 伏尔哈特法

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard replaces GB/T 11886-2001 "jewelry silver content Methods for chemical analysis." This standard compared with GB/T 11886-2001, the main technical changes are as follows:

- Standard names and structures according to GB/T 1.1-2009 requirements be modified.
- Prepared to modify the standard in accordance with GB/T 1.1-2009 and GB/T 20001.4-2001 requirements.
- By the scope of this standard, "80.0% to 99.5%" adjusted "700 per mille ~ 995 per mille", and the table and the scope of the calculation results Modify as shown per mille, and GB 11887 "jewelry precious metal purity and designation" means way to keep Consistent.
- The calibration standard solution of potassium thiocyanate adjustment from Chapter 4 to Chapter 6, make the structure more clear and reasonable standard.
- Modify the representation of the results of Chapter 7, and added, "The results to reserved bits" requirements.
- Increase the content and requirements of Chapter 8 lab report. The standard proposed by China National Light Industry Council. This standard by the National Standardization Technical Committee jewelry (SAC/TC256) centralized. This standard was drafted. National Jewelry Quality Supervision and Inspection Center, Beijing Jewelry Quality Supervision and Inspection Station. The main drafters of this standard. Li Kun, Lisu Qing, Wang Jinlong, Zhao Chao, Liu Yufeng, Wang Jian, ZHANG Dai, Zhang Hongyan. This standard superseded standard previously issued as follows:
 - GB/T 11886-1989, GB/T 11886-2001. Determination of silver content of the silver alloy jewelry V Earhart law

1 Scope

GB/T 11886-2015 is the Chinese national standard on silver jewellery alloys - determination of silver - volhard method, in the field of precision mechanics and jewellery. 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 2 June 2015 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 January 2016. Classification: ICS 39.060, CCS Y88. 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.

This standard specifies the method determined by volt Earhart silver alloy jewelry in silver content. This standard applies to the silver content of 700 per mille ~ 995 per mille silver alloy jewelry, not easy to determine when the end point of titration is recommended GB/T 17832 or GB/T 18996 Determination

Note. When the silver content of the sample exceeds the scope of this standard, recommended GB/T 17832 or GB/T 18996 for testing.

2 Normative references

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

GB/T 17832 silver jewellery alloys - Determination of silver content of potassium bromide volumetric method (potentiometric titration)

GB/T 18996 silver jewellery alloys - Determination of silver content sodium or potassium chloride volumetric method (potentiometric titration)

3 PRINCIPLE OF THE METHOD

The sample was dissolved in nitric acid to ammonium ferric sulfate as an indicator was titrated with a standard solution of potassium thiocyanate. First and thiocyanate solution Silver ions react insoluble precipitate silver thiocyanate, silver ions when precipitation was complete, the excess drop of thiocyanate and ferric ion trans Should generate red ferric thiocyanate complexes, is the end.

4 Reagent material

Unless otherwise indicated in the analysis using only recognized as analytical grade reagents and distilled or deionized water or equivalent purity. Nitric acid

4.1 mass fraction of 65%, $\rho = 1.40\text{g/mL}$, no chlorine ions. Sulfuric acid

4.2 mass fraction of 98%, $\rho = 1.84\text{g/mL}$, no chlorine ions.

4.3 nitric acid (12).

4.4 mixed acid, nitric acid (4.1) sulfate (4.2) = 51.

4.5 potassium thiocyanate standard titration solution, pharmaceutical balance (5.3), potassium thiocyanate weighed 45.5g, placed in 250mL beaker, add the right amount of steam After the distilled water to dissolve the reagent bottle transferred to a 5L, plus distilled water diluted to 5L, shake well and let stand for 3 days.

4.6 ammonium ferric sulfate indicator, pharmaceutical balance (5.3) weigh ammonium ferric sulfate 5.0g, placed in 250mL beaker, adding an appropriate amount of distilled water to make It becomes saturated solution. Solution of nitric acid to brown then disappear, diluted with distilled water to 50mL, shake.

4.7 standard silver, purity 999.9 per mille or more.

5 Equipment

Common laboratory equipment and

5.1 electronic balance, a sense of the amount of 0.01mg, accuracy class three.