

ICS 73.060

CCS D46



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

GB/T 17418.3-2010

Replacing GB/T 17418.3-1998

**Methods for analysis of noble metals in geochemical samples - Part 3:
Determination of palladium content - Preconcentration by thiourea -
graphite furnace atomic absorption spectrophotometric method**

地球化学样品中贵金属分析方法 第3部分：钯量的测定 硫脲富集-石墨炉原子吸收
分光光度法

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- 4.6 Hydrofluoric acid ($\rho=1.15\text{g/mL}$). Warning

Foreword

GB/T 17418 "analysis of noble metals in geochemical samples Method" is divided into seven parts.

- Part 1. General rules and regulations;
- Part 2. platinum and rhodium content - Determination of thiourea enrichment - catalytic polarography;
- Part 3. Determination of palladium content - Preconcentration by thiourea - Graphite furnace atomic absorption spectrophotometry;
- Part 4. Determination of the amount of iridium-enriched thiourea - Catalytic spectrophotometry;
- Part 5. Determination of the amount of ruthenium and osmium distillation - Catalytic spectrophotometry;
- Part 6. platinum, palladium and gold contents - fire assay enrichment - Emission Spectrometry;
- Part 7. Determination of nickel sulphide fire assay gold platinum group elements - Inductively Coupled Plasma Mass Spectrometry. This section GB/T 17418 Part 3. This Part replaces GB/T 17418.3-1998 "analysis of noble metals in geochemical samples enriched thiourea - Graphite Furnace Atomic Absorption Determination of the amount of palladium. " This section compared with the GB/T 17418.3-1998, the main changes are as follows:
 - Increased warning;
 - Clearly indicate the mass fraction measurement range;
 - Specification standard noun;
 - Modify supplements the results of the calculation;
 - Modify simplifies sample scale test solution dispensing scale content;

--- Change some sequence of reagents and samples sulfide bake conditions;

1 Scope

GB/T 17418.3-2010 is the Chinese national standard on methods for analysis of noble metals in geochemical samples - part 3: determination of palladium content - preconcentration by thiourea - graphite furnace atomic absorption spectrophotometric method, in the field of mining and minerals. 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 10 November 2010 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 February 2011. Classification: ICS 73.060, CCS D46. 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 17418 provisions of this part of the determination of palladium in geochemical samples. This section applies to the determination of palladium in geological materials containing platinum group elements ultrabasic rocks. Measurement range, mass fraction, said. 1ng/g ~ 0.5µg/g.

2 Normative references

The following documents contain provisions which, through reference

GB/T 17418 in this section constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 17418.1 precious metal analysis methods General rules and regulations in geochemical samples Principle

3 In addition to burning through the sample after sulfur and organic matter, sodium peroxide decomposition, water extraction to sulfuric acid, hydrofluoric acid plus evaporation smoke except silicon. Concentrated Sulfuric acid medium, when heated to 230 °C, thiourea and platinum, palladium, rhodium, iridium and other precious metal elements generate sulfide precipitation, and thus a large number of base metals division from. Plus nitric acid - sulfuric acid to dissolve and destroy the filter paper and precipitate sulfur. Then lithium sulfate - sodium pyrosulfate melt, platinum, palladium and other platinum group elements into Sulfate complex. Chelate palladium 6mol/L HCl medium and DDO form available petroleum

ether - chloroform extraction, palladium is further enriched. organic Phase palladium graphite furnace atomic absorption spectrometry.

4 Reagents

4.1 hydrochloride (rho1.19g/mL).

4.2 hydrochloride (11). Nitrate 4.3 (rho1.42g/mL).

4.4 sulfate (rho1.84g/mL).

4.5 sulfate (11). Warning

--- improper dilution risk prone.

4.6 Hydrofluoric acid (rho1.15g/mL). Warning

--- toxic and corrosive hydrofluoric acid, care.

4.7 phosphoric acid (rho1.69g/mL).

4.8 perchloric acid (rho1.67g/mL). Pure class distinctions. Warning

--- explosive, careful operation.

4.9 sodium peroxide.

4.10 hydrogen peroxide (rho1.11g/mL).

4.11 sodium chloride solution w (NaCl) = 20%.