

**Pallaadiumisisalduse määramine juveeltoodete
pallaadiumisulamites. Kaalanalüüsimeetod, milles
kasutatakse dimetüülglüoksiimi**

Determination of palladium in palladium jewellery alloys
- Gravimetric method with dimethyl glyoxime

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 11490:2004 sisaldab Euroopa standardi EN ISO 11490:1995 ingliskeelset teksti. Standard on kinnitatud Eesti Standardikeskuse 11.01.2000 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas. Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 01.05.1995. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN ISO 11490:2004 consists of the English text of the European standard EN ISO 11490:1995. This standard is ratified with the order of Estonian Centre for Standardisation dated 11.01.2000 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation. Date of Availability of the European standard text 01.05.1995. The standard is available from Estonian standardisation organisation.
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ICS 39.060

Võtmesõnad: juveeltooted, kaalanalüüs, keemiline analüüs, pallaadium, pallaadiumisulamid, sisalduse määramine

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Descriptors: Jewellery, palladium content, palladium alloys, testing.

English version

Determination of palladium in palladium jewellery alloys
Gravimetric determination with dimethylglyoxime
(ISO 11 490:1995)

Dosage du palladium dans les alliages de
palladium pour la bijouterie-joaillerie;
dosage gravimétrique par la diméthylgly-
oxime (ISO 11 490:1995)

Bestimmung von Palladium in Palladium-
Schmucklegierungen; gravimetrische Be-
stimmung mit Dimethylglyoxim
(ISO 11 490:1995)

This European Standard was approved by CEN on 1995-04-27 and is identical to the ISO Standard referred to.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Foreword

International Standard

ISO 11 490:1995 Determination of palladium in palladium jewellery alloys; gravimetric determination with dimethylglyoxime,

which was prepared by ISO/TC 174 'Jewellery' of the International Organization for Standardization, has been adopted by CEN/BT as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by November 1995 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard:

Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

Endorsement notice

The text of the International Standard ISO 11 490:1995 was approved by CEN as a European Standard without any modification.

1 Scope

This International Standard specifies a gravimetric method for the determination of palladium in palladium jewellery alloys, preferably within the range of fineness stated in ISO 9202.

These alloys which may contain silver, indium, gallium, copper, cobalt, nickel, tin and ruthenium. Coprecipitated elements have to be determined by a suitable method and a correction applied.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 9202:1991, *Jewellery — Fineness of precious metal alloys*.

3 Principle

The sample is dissolved in *aqua regia*. Palladium is precipitated with dimethylglyoxime. If present, silver is separated as silver chloride. The palladium dimethylglyoxime compound is converted to metallic palladium by ignition and the latter is then determined gravimetrically.

4 Reagents

During the analysis, unless otherwise stated, use only reagents of recognized analytical grade and only distilled water or water of equivalent purity.

4.1 Nitric acid, 69 % (m/m), $\rho_{20} = 1,41 \text{ g/cm}^3$.

4.2 Hydrochloric acid,
38 % (m/m), $\rho_{20} = 1,19 \text{ g/cm}^3$.

4.3 Dilute hydrochloric acid,
8,5 % (m/m), $\rho_{20} = 1,04 \text{ g/cm}^3$.

4.4 Dimethylglyoxime solution.

Dissolve 10 g of dimethylglyoxime in 1 litre of ethanol.

4.5 Ammonium chloride.

4.6 Dilute nitric acid,
1,39 % (m/m), $\rho_{20} = 1,00 \text{ g/cm}^3$.

Cautiously add 10 ml of nitric acid (4.1) to 1 000 ml of water and mix.

4.7 Hydrofluoric acid,
40 % (m/m), $\rho_{20} = 1,13 \text{ g/cm}^3$.

4.8 Dilute sulfuric acid,
49 % (m/m), $\rho_{20} = 1,4 \text{ g/cm}^3$.

Cautiously add 100 ml of sulfuric acid [98 % (m/m), $\rho_{20} = 1,86 \text{ g/cm}^3$] to 100 ml of water and mix.

4.9 Reducing gas, such as hydrogen or a hydrogen/nitrogen mixture.