

<b>STN</b>	<b>Technológia jadrového paliva. Chemické oddeľovanie a čistenie uránu a plutónia v roztokoch kyseliny dusičnej na izotopovú a izotopovú zried'ovaciú analýzu extrakčnou chromatografiou s extrakčným rozpúšťadlom. Časť 1: Vzorky s obsahom plutónia v mikrogramoch a uránu v miligramoch (ISO 15366-1: 2014).</b>	<b>STN EN ISO 15366-1</b>
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Nuclear fuel technology - Chemical separation and purification of uranium and plutonium in nitric acid solutions for isotopic and isotopic dilution analysis by solvent extraction chromatography - Part 1: Samples containing plutonium in the microgram range and uranium in the milligram range (ISO 15366-1:2014)

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 08/16

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Podľa zákona č. 264/1999 Z. z. v znení neskorších predpisov sa môžu slovenské technické normy rozmnožovať a rozširovať iba so súhlasom Úradu pre normalizáciu, metrológiu a skúšobníctvo SR.

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Nuclear fuel technology - Chemical separation and purification of uranium and plutonium in nitric acid solutions for isotopic and isotopic dilution analysis by solvent extraction chromatography - Part 1: Samples containing plutonium in the microgram range and uranium in the milligram range (ISO 15366-1:2014)

Technologie du combustible nucléaire - Séparation et purification chimiques de l'uranium et du plutonium dans les solutions d'acide nitrique par extraction chromatographique par solvant pour les mesures isotopiques et les analyses par dilution isotopique - Partie 1: Échantillons ayant des teneurs en plutonium de l'ordre du microgramme et en uranium de l'ordre du milligramme (ISO 15366-1:2014)

Kernbrennstofftechnologie - Chemische Trennung und Reinigung von Uran und Plutonium in Salpetersäure-Lösungen für Isotopen- und Isotopenverdünnungsanalysen mittels Lösemittelextraktions-Chromatographie - Teil 1: Proben mit Plutonium im Mikrogrammbereich und Uranium im Milligrammbereich (ISO 15366-1:2014)

This European Standard was approved by CEN on 21 February 2016.

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## European foreword

The text of ISO 15366-1:2014 has been prepared by Technical Committee ISO/TC 85 “Nuclear energy, nuclear technologies, and radiological protection” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 15366-1:2016 by Technical Committee CEN/TC 430 “Nuclear energy, nuclear technologies, and radiological protection” the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2016, and conflicting national standards shall be withdrawn at the latest by October 2016.

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### Endorsement notice

The text of ISO 15366-1:2014 has been approved by CEN as EN ISO 15366-1:2016 without any modification.

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**Nuclear fuel technology — Chemical separation and purification of uranium and plutonium in nitric acid solutions for isotopic and isotopic dilution analysis by solvent extraction chromatography —**

**Part 1:  
Samples containing plutonium in the microgram range and uranium in the milligram range**

*Technologie du combustible nucléaire — Séparation et purification chimiques de l'uranium et du plutonium dans les solutions d'acide nitrique par extraction chromatographique par solvant pour les mesures isotopiques et les analyses par dilution isotopique —*

*Partie 1: Échantillons ayant des teneurs en plutonium de l'ordre du microgramme et en uranium de l'ordre du milligramme*





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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. [www.iso.org/directives](http://www.iso.org/directives)

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 85, *Nuclear energy, nuclear technologies, and radiological protection*, Subcommittee SC 5, *Nuclear fuel cycle*.

This first edition, together with the first edition of ISO 15366-2, cancels and replaces the first edition of ISO 15366:1999, which has been technically revised.

ISO 15366 consists of the following parts, under the general title *Chemical separation and purification of uranium and plutonium in nitric acid solutions for isotopic and isotopic dilution analysis by solvent extraction chromatography* —

- *Part 1: Sample containing plutonium in the microgram range and uranium in the milligram range*
- *Part 2: Sample containing plutonium and uranium amounts in the nanogram range and below*

# Nuclear fuel technology — Chemical separation and purification of uranium and plutonium in nitric acid solutions for isotopic and isotopic dilution analysis by solvent extraction chromatography —

## Part 1:

## Samples containing plutonium in the microgram range and uranium in the milligram range

### 1 Scope

This part of ISO 15366 describes procedures to chemically separate and purify uranium and plutonium in dissolved solutions of irradiated light water reactor fuels and in samples of high active liquid waste of spent fuel reprocessing plants, prior to their isotopic analysis by e.g. mass spectrometric method (see ISO 8299[1]) or alpha spectrometry (see ISO 11483[2]).

This part of ISO 15366, describes a technique for the separation of uranium and plutonium in spent fuel type samples based on chromatographic method. The procedure applies to samples containing 1 µg to 150 µg Pu (IV) and (VI) and 0,1 mg to 2 mg U (IV) and (VI) in up to 2 ml of 3 mol·l<sup>-1</sup> nitric acid solution. It is applicable to mixtures of uranium and plutonium in which the U/Pu-ratio can range from 0 up to 200.

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**