ICS 27.120.30 SLOVENSKÁ TECHNICKÁ NORMA Október 2023

STN	**Stanovenie obsahu uránu vo vzorkách pochádzajúcich z jadrového palivového cyklu metódou L-absorpčnej spektrometrie absorpčnej hrany (ISO 24459: 2021)**	**STN EN ISO 24459** 40 1431

Determination of uranium content in samples coming from the nuclear fuel cycle by L-absorption edge spectrometry (ISO 24459:2021)

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. 09/23

Obsahuje: EN ISO 24459:2023, ISO 24459:2021

obsahuje farebné strany

137463

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 24459

July 2023

ICS 27.120.30

English Version

Determination of uranium content in samples coming from the nuclear fuel cycle by L-absorption edge spectrometry (ISO 24459:2021)

Détermination de la quantité d'uranium dans des échantillons du cycle du combustible nucléaire par spectrométrie de discontinuité d'absorption L (ISO 24459:2021)

Bestimmung von Uran in Lösungen des Kernbrennstoffkreislaufs - L-Absorptionskantenspektrometrie (ISO 24459:2021)

This European Standard was approved by CEN on 16 July 2023.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN ISO 24459:2023 E

Contents

Page

European foreword

The text of ISO 24459:2021 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 24459:2023 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of an identical text or by endorsement, at the latest by January 2024, and conflicting national standards shall be withdrawn at the latest by January 2024.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 24459:2021 has been approved by CEN as EN ISO 24459:2023 without any modification.

INTERNATIONAL STANDARD

ISO 24459

First edition
2021-10

Determination of uranium content in samples coming from the nuclear fuel cycle by L-absorption edge spectrometry

Détermination de l'uranium dans les solutions du cycle du combustible nucléaire par absorption de rayons X à la discontinuité L

Reference number
ISO 24459:2021(E)

COPYRIGHT PROTECTED DOCUMENT

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

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 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 85, *Nuclear energy, nuclear technologies, and radio protection*, Subcommittee SC 5, *Analytical methodology in the nuclear fuel cycle*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

INTERNATIONAL STANDARD ISO 24459:2021(E)

Determination of uranium content in samples coming from the nuclear fuel cycle by L-absorption edge spectrometry

1 Scope

This document specifies a method for the determination of uranium concentrations in nitric acid or TBP-DILUANT (for example TBP-kerosene) solutions coming from the nuclear fuel cycle.

The method is applicable

— for process control of solutions, free of suspension, which contain between 10 g/l to 300 g/l uranium, and

— for high accuracy purposes (Safeguards) to nitric acid solutions, free of suspension, which contain between 100 g/l and 220 g/l uranium.

Having

— the content of neptunium and plutonium impurities in the solution less than 1 % of the uranium content.

— the content of neutron poisons (gadolinium, erbium) less than 1 % of the uranium content to ensure the absence of significant interferences at the level of required precision, for high accuracy purposes.

The method is applicable to solid samples as well, provided that they can be fully dissolved in nitric acid.

2 Normative references

There are no normative references in this document.