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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.

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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)

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

EN ISO 24459:2023 (E)

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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.

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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

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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)

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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

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ISO 24459:2021(E)

Foreword

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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*.

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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.

koniec náhľadu – text ďalej pokračuje v platenej verzii STN