



SLOVENSKI STANDARD

oSIST prEN ISO 23548:2025

01-julij-2025

Merjenje radioaktivnosti - Radionuklidi, ki oddajajo sevanje alfa - Generična preskusna metoda z uporabo alfa spektrometrije (ISO 23548:2024)

Measurement of radioactivity - Alpha emitting radionuclides - Generic test method using alpha spectrometry (ISO 23548:2024)

Mesurage de la radioactivité - Radionucléides émetteurs alpha - Méthode d'essai générique par spectrométrie alpha (ISO 23548:2024)

Ta slovenski standard je istoveten z: prEN ISO 23548

<https://standards.iteh.ai/catalog/standards/sist/b0230051-d6b4-4fec-a984-3247184b0d6d/osist-pren-iso-23548-2025>

ICS:

17.240	Merjenje sevanja	Radiation measurements
--------	------------------	------------------------

oSIST prEN ISO 23548:2025

en,fr,de



International Standard

ISO 23548

Measurement of radioactivity — Alpha emitting radionuclides — Generic test method using alpha spectrometry

*Mesurage de la radioactivité — Radionucléides émetteurs alpha
— Méthode d'essai générique par spectrométrie alpha*

**First edition
2024-09**

iTeh Standards
(standards.iteh.ai)
Document Preview

[oSIST prEN ISO 23548:2025](https://standards.iteh.ai/catalog/standards/sist/b0230051-d6b4-4fec-a984-3247184b0d6d/osist-pren-iso-23548-2025)

<https://standards.iteh.ai/catalog/standards/sist/b0230051-d6b4-4fec-a984-3247184b0d6d/osist-pren-iso-23548-2025>

ISO 23548:2024(en)

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[oSIST prEN ISO 23548:2025](https://standards.iteh.ai/catalog/standards/sist/b0230051-d6b4-4fec-a984-3247184b0d6d/osist-pren-iso-23548-2025)

<https://standards.iteh.ai/catalog/standards/sist/b0230051-d6b4-4fec-a984-3247184b0d6d/osist-pren-iso-23548-2025>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2024

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

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

ISO 23548:2024(en)

Contents

Page

Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Symbols and units	3
5 Principle	4
6 Chemical reagents and equipment	5
6.1 General	5
6.2 Chemical reagents	5
6.2.1 Water quality	5
6.2.2 Tracer solution	5
6.3 Equipment	6
7 Sampling and samples	9
8 Procedure	9
8.1 General	9
8.2 Calcination	10
8.3 Sample dissolution processes	10
8.4 Specific radiochemical separation procedures	11
8.5 Methods of deposition	12
8.5.1 Direct deposition	12
8.5.2 Spontaneous deposition of polonium	12
8.5.3 Microprecipitation	13
8.5.4 Electrodeposition	13
8.6 Measurement	14
8.6.1 Measurement geometry	14
8.6.2 Spectrum exploitation	14
8.6.3 Energy calibration	15
8.6.4 Efficiency calibration	16
8.6.5 Global background	17
8.6.6 Chemical yield and total efficiency	17
8.6.7 Quality control sources	18
8.7 Recommended nuclear decay data	18
9 Expression of results	19
9.1 Calculation of activity	19
9.1.1 General	19
9.1.2 Alpha activity	19
9.1.3 Uncertainty	19
9.1.4 Decision threshold	20
9.1.5 Detection limit	20
9.2 Calculation of sample activity	21
9.2.1 General	21
9.2.2 Calculation of derived alpha activity	21
9.2.3 Relative uncertainty	21
9.2.4 Decision threshold	21
9.2.5 Detection limit	22
9.2.6 Coverage interval limits	22
10 Test report	23
Annex A (informative) Generic alpha test method processes	24
Annex B (informative) Examples of melting flux	25

ISO 23548:2024(en)

Annex C (informative) Preparation of the source by coprecipitation	26
Annex D (informative) Preparation of the source by electrodeposition	30
Annex E (informative) Alpha peak integration with minimized uncertainty	33
Bibliography	35

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[oSIST prEN ISO 23548:2025](https://standards.iteh.ai/catalog/standards/sist/b0230051-d6b4-4fec-a984-3247184b0d6d/osist-pren-iso-23548-2025)

<https://standards.iteh.ai/catalog/standards/sist/b0230051-d6b4-4fec-a984-3247184b0d6d/osist-pren-iso-23548-2025>