

BS EN ISO 3925:2015



BSI Standards Publication

# Unsealed radioactive substances — Identification and documentation

**bsi.**

...making excellence a habit.™

### National foreword

This British Standard is the UK implementation of EN ISO 3925:2015. It is identical to ISO 3925:2014. It supersedes BS ISO 3925:2014, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee NCE/2, Radiation protection and measurement.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2015.  
Published by BSI Standards Limited 2015

ISBN 978 0 580 88247 0

ICS 13.280

**Compliance with a British Standard cannot confer immunity from legal obligations.**

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 January 2014.

### Amendments/corrigenda issued since publication

| Date              | Text affected   |
|-------------------|---|
| 30 September 2015 | This corrigendum renumbers BS ISO 3925:2014 as BS EN ISO 3925:2015. |

EUROPEAN STANDARD

**EN ISO 3925**

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2015

ICS 13.280

English Version

## Unsealed radioactive substances - Identification and documentation (ISO 3925:2014)

Substances radioactives non scellées - Identification et documentation (ISO 3925:2014)

Nichtumschlossene radioaktive Stoffe - Kennzeichnung und Dokumentation (ISO 3925:2014)

This European Standard was approved by CEN on 12 June 2015.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

## European foreword

The text of ISO 3925:2014 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 3925:2015 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 March 2016, and conflicting national standards shall be withdrawn at the latest by March 2016.

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

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### Endorsement notice

The text of ISO 3925:2014 has been approved by CEN as EN ISO 3925:2015 without any modification.

# Contents

Page

|                                      |           |
|--------------------------------------|-----------|
| <b>Foreword</b> .....                | <b>iv</b> |
| <b>1 Scope</b> .....                 | <b>1</b>  |
| <b>2 Normative references</b> .....  | <b>1</b>  |
| <b>3 Terms and definitions</b> ..... | <b>1</b>  |
| <b>4 Identification</b> .....        | <b>1</b>  |
| <b>5 Certificate</b> .....           | <b>2</b>  |
| <b>Bibliography</b> .....            | <b>3</b>  |

## 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)

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. [www.iso.org/patents](http://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 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 2, *Radiological protection*.

This second edition cancels and replaces the first edition (ISO 3925:1978), which has been technically revised.

# Unsealed radioactive substances — Identification and documentation

## 1 Scope

This International Standard establishes the requirements for the identification and documentation of unsealed radioactive substances issued commercially by suppliers and which are intended for further handling or processing, either physical or chemical.

Requirements for radiopharmaceuticals and standard sources are not covered.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 361, *Basic ionizing radiation symbol*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1

#### **unsealed radioactive substance**

radioactive substance placed in a container in a way enabling its further physical or chemical processing;

Note 1 to entry: The container does not meet or has not been demonstrated to meet the requirements for a sealed source as defined in ISO 2919.

### 3.2

#### **radionuclidic purity**

proportion of the total activity that is present in the sample as a specific radionuclide

### 3.3

#### **radiochemical purity**

percentage present in the sample of a given radionuclide that is in one specified chemical form

[SOURCE: ISO 921:1997]

### 3.4

#### **specific activity**

total activity of the sample divided by its mass

### 3.5

#### **activity concentration**

total activity of the sample divided by its volume

## 4 Identification

The container of the unsealed radioactive substance shall be durably and legibly marked with the following:

- a) manufacturer's name or symbol;

- b) chemical symbol, mass number of the radionuclide, and, if physically possible, the name of the chemical preparation;
- c) radiation symbol in accordance with ISO 361, and if physically possible, the word "RADIOACTIVE";
- d) cross-reference to the certificate (see [Clause 5](#)).

## 5 Certificate

The manufacturer shall provide a certificate bearing the following information, as appropriate:

- a) manufacturer's name and address;
- b) name of the preparation and chemical form, mass number and chemical symbol of the radionuclide, and, when applicable, a statement indicating the position of the radionuclide in the molecule of the compound;
- c) cross-reference to the label on the container;
- d) physical form of the preparation and solvent if present;
- e) mass or volume of the preparation;
- f) activity concentration and/or specific activity at stated time and date; when there is a mixture of radionuclides, the activity of each radionuclide at a specified time and date shall be stated;
- g) activity at stated time and date;
- h) radionuclidic purity;
- i) radiochemical purity;
- j) chemical purity or impurities;
- k) acidity, alkalinity or pH;
- l) date of production and expiry date;
- m) special conditions of storage;
- n) physical and chemical characteristics of storage container;
- o) process batch identification.



## Bibliography

- [1] ISO 921:1997, *Nuclear energy — Vocabulary*
- [2] ISO 2919:2012, *Radiological protection — Sealed radioactive sources — General requirements and classification*





# British Standards Institution (BSI)

BSI is the national body responsible for preparing British Standards and other standards-related publications, information and services.

BSI is incorporated by Royal Charter. British Standards and other standardization products are published by BSI Standards Limited.

## About us

We bring together business, industry, government, consumers, innovators and others to shape their combined experience and expertise into standards-based solutions.

The knowledge embodied in our standards has been carefully assembled in a dependable format and refined through our open consultation process. Organizations of all sizes and across all sectors choose standards to help them achieve their goals.

## Information on standards

We can provide you with the knowledge that your organization needs to succeed. Find out more about British Standards by visiting our website at [bsigroup.com/standards](http://bsigroup.com/standards) or contacting our Customer Services team or Knowledge Centre.

## Buying standards

You can buy and download PDF versions of BSI publications, including British and adopted European and international standards, through our website at [bsigroup.com/shop](http://bsigroup.com/shop), where hard copies can also be purchased.

If you need international and foreign standards from other Standards Development Organizations, hard copies can be ordered from our Customer Services team.

## Subscriptions

Our range of subscription services are designed to make using standards easier for you. For further information on our subscription products go to [bsigroup.com/subscriptions](http://bsigroup.com/subscriptions).

With **British Standards Online (BSOL)** you'll have instant access to over 55,000 British and adopted European and international standards from your desktop. It's available 24/7 and is refreshed daily so you'll always be up to date.

You can keep in touch with standards developments and receive substantial discounts on the purchase price of standards, both in single copy and subscription format, by becoming a **BSI Subscribing Member**.

**PLUS** is an updating service exclusive to BSI Subscribing Members. You will automatically receive the latest hard copy of your standards when they're revised or replaced.

To find out more about becoming a BSI Subscribing Member and the benefits of membership, please visit [bsigroup.com/shop](http://bsigroup.com/shop).

With a **Multi-User Network Licence (MUNL)** you are able to host standards publications on your intranet. Licences can cover as few or as many users as you wish. With updates supplied as soon as they're available, you can be sure your documentation is current. For further information, email [bsmusales@bsigroup.com](mailto:bsmusales@bsigroup.com).

## BSI Group Headquarters

389 Chiswick High Road London W4 4AL UK

## Revisions

Our British Standards and other publications are updated by amendment or revision.

We continually improve the quality of our products and services to benefit your business. If you find an inaccuracy or ambiguity within a British Standard or other BSI publication please inform the Knowledge Centre.

## Copyright

All the data, software and documentation set out in all British Standards and other BSI publications are the property of and copyrighted by BSI, or some person or entity that owns copyright in the information used (such as the international standardization bodies) and has formally licensed such information to BSI for commercial publication and use. Except as permitted under the Copyright, Designs and Patents Act 1988 no extract may be reproduced, stored in a retrieval system or transmitted in any form or by any means – electronic, photocopying, recording or otherwise – without prior written permission from BSI. Details and advice can be obtained from the Copyright & Licensing Department.

## Useful Contacts:

### Customer Services

**Tel:** +44 845 086 9001

**Email (orders):** [orders@bsigroup.com](mailto:orders@bsigroup.com)

**Email (enquiries):** [cservices@bsigroup.com](mailto:cservices@bsigroup.com)

### Subscriptions

**Tel:** +44 845 086 9001

**Email:** [subscriptions@bsigroup.com](mailto:subscriptions@bsigroup.com)

### Knowledge Centre

**Tel:** +44 20 8996 7004

**Email:** [knowledgecentre@bsigroup.com](mailto:knowledgecentre@bsigroup.com)

### Copyright & Licensing

**Tel:** +44 20 8996 7070

**Email:** [copyright@bsigroup.com](mailto:copyright@bsigroup.com)



...making excellence a habit.™