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Fume cupboards - Part 8: Fume cupboards for work with radioactive materials

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

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Sorbonnes - Partie 8 : Sorbonnes pour matières radioactives

Abzüge - Teil 8: Abzüge für Arbeiten mit radioaktiven Substanzen

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

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European foreword

This document (EN 14175-8:2022) has been prepared by Technical Committee CEN/TC 332 “Laboratory equipment”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by January 2023, and conflicting national standards shall be withdrawn at the latest by January 2023.

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Introduction

Before using radioactive materials, a safety (risk) assessment is performed with reference to legislation and advice from radiation protection experts.

The maximum amount of activity allowed for every activity with radioactive material is evaluated in accordance to the three principles of radiological protection, namely justification, optimization, and the application of dose limits, clarifying how they apply to radiation sources delivering exposure and to individuals receiving exposure. Shielding or abatement system when appropriate are also evaluated.

There are three kinds of dose in radiological protection. Absorbed dose is a measurable, physical quantity, while equivalent dose and effective dose are specifically for radiological protection purposes. Dose is used in this document as defined in IAEA Glossary 2018.

Attention is drawn to the publication IAEA SAFETY STANDARDS SERIES, Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards General Safety Requirements Part 3 (No. GSR Part 3).

1 Scope

This document specifies the characteristics of fume cupboards, as defined in EN 14175-1, for work with unsealed radioactive materials with specific requirements regarding radiation protection. It does not apply to fume cupboards, glove boxes or hot cells (shielded radiation containment cells which can incorporate fume extraction).

The purpose of this document is to set out rules for the design and testing of fume cupboards for work with unsealed radioactive materials, in order to provide guidelines for the manufacturer, planner, installer, operator, assessor and the authorities.

This document only covers bench type fume cupboards.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 13150, *Workbenches for laboratories in educational institutions - Dimensions, safety and durability requirements and test methods*

EN 14056, *Laboratory furniture - Recommendations for design and installation*

EN 14175-1, *Fume cupboards - Part 1: Vocabulary*

EN 14175-2:2003, *Fume cupboards - Part 2: Safety and performance requirements*

EN 14175-3:2019, *Fume cupboards - Part 3: Type test methods*

EN 14175-4, *Fume cupboards - Part 4: On-site test methods*

EN 14175-6, *Fume cupboards - Part 6: Variable air volume fume cupboards*

ISO 16170:2016, *In situ test methods for high efficiency filter systems in industrial*