

## **Fire safety storage cabinets - Part 1: Safety storage cabins for flammable liquids**

Fire safety storage cabinets - Part 1: Safety storage  
cabines for flammable liquids

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 14470-1:2004 sisaldab Euroopa standardi EN 14470-1:2004 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 27.08.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 14470-1:2004 consists of the English text of the European standard EN 14470-1:2004.</p> <p>This document is endorsed on 27.08.2004 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b></p> <p>This European Standard is a product specification, giving performance requirements for fire safety cabinets to be used for the storage of flammable liquids in laboratories. It is applicable to cabinets with a total internal volume of not greater than 1 m<sup>3</sup>, which may be free standing, restrained to a wall or mounted on wheels or castors. It is not applicable to brick enclosures or walk-in storage rooms.</p>	<p><b>Scope:</b></p> <p>This European Standard is a product specification, giving performance requirements for fire safety cabinets to be used for the storage of flammable liquids in laboratories. It is applicable to cabinets with a total internal volume of not greater than 1 m<sup>3</sup>, which may be free standing, restrained to a wall or mounted on wheels or castors. It is not applicable to brick enclosures or walk-in storage rooms.</p>
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**ICS** 13.220.40, 71.040.10

**Võtmesõnad:** inf, inflammable solids, inspection, laboratory equipment, laboratory furniture, marking, safety, safety cabinets, safety engineering, safety requirements, specification (approval), specifications, storage, storage furniture, storing container, testing, type testing

ICS 13.220.40; 71.040.10

English version

## Fire safety storage cabinets - Part 1: Safety storage cabinets for flammable liquids

Armoires de stockage de sécurité incendie - Partie 1:  
Armoires de stockage de sécurité pour liquides  
inflammables

Feuerwiderstandsfähige Lagerschränke - Teil 1:  
Sicherheitsschränke für brennbare Flüssigkeiten

This European Standard was approved by CEN on 2 February 2004.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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



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## Foreword

This document (EN 14470-1:2004) 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 October 2004, and conflicting national standards shall be withdrawn at the latest by October 2004.

Annexes A and B are normative.

This document includes a Bibliography.

EN 14470, *Fire safety storage cabinets*, consists of the following parts:

Part 1 — Safety storage cabinets for flammable liquids

Part 2 — Safety storage cabinets for pressurised gas cylinders (in preparation)

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

## Introduction

This European Standard describes the design and testing criteria for safety cabinets to be used in laboratories to store flammable liquids in closed containers at normal room temperatures.

Primarily, this European Standard covers the three major safety requirements for storage of flammable liquids, which are:

- a) minimising the fire risks associated with the storage of flammable substances and protection of the cabinet's contents in the event of fire for a known (tested) minimum length of time (fire rating);
- b) minimising the amount of vapour released into the working environment;
- c) retention of accidental spillage within the cabinet.

Testing of the cabinet [see a) above] under fire conditions is a normative part of the standard and the procedures and interpretation of the tests are described in detail.

The fire test [see a) above] provides for four categories of fire protection / ratings. In practice the degree of fire protection/rating allows the user to select, depending on individual circumstances, a cabinet which will allow sufficient time for personnel to leave, and fire fighters to enter the laboratory before it is likely to that the flammables stored turn a possible minor / extinguishable fire into an uncontrollable one. The methods of achieving b) and c) above are sufficiently flexible to allow for local/national needs.

Caution should be exercised when determining the appropriate cabinet fire rating when flammables having auto-ignition temperatures below 200 °C and/or having high vapour pressures at room temperature are involved. When such flammable materials are being stored, expert advice should be sought.

## 1 Scope

This European Standard is a product specification, giving performance requirements for fire safety cabinets to be used for the storage of flammable liquids in laboratories. It is applicable to cabinets with a total internal volume of not greater than 1 m<sup>3</sup>, which may be free standing, restrained to a wall or mounted on wheels or castors. It is not applicable to brick enclosures or walk-in storage rooms.

This European Standard is not applicable to cabinets which do not take their weight on their base.

Requirements are given in respect of the construction of the cabinet and its capacity to resist fire conditions on the outside. A classification of cabinets is given, according to the level of fire resistance offered, and a type test is included, which draws on already existing fire resistance tests, such as those given in ISO 834-1 [1] and EN 1363-1.

The tests described in this European Standard are type tests.

NOTE 1 This European Standard does not discriminate between different flammable liquids, which may have considerably different physical properties. The suitability of the standard in respect of any given flammable liquid should be ascertained by the user.

NOTE 2 Attention is drawn to national regulations which may apply with regard to the storage of flammable liquids.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 1363-1:1999, *Fire resistance tests — Part 1: General requirements*.

EN ISO 4796-2, *Laboratory glassware — Bottles — Part 2: Conical neck bottles (ISO 4796-2:2000)*.

EN ISO 13943:2000, *Fire safety — Vocabulary (ISO 13943:2000)*.

ISO 3864 (all Parts), *Safety colours and safety signs*.

## 3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN ISO 13943:2000 and the following apply.

### 3.1

#### **type**

specimen of a design manufactured with the characteristics intended for series production

### 3.2

#### **type testing**

conformity testing on the basis of one or more specimens of product representative of the production