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Standards

Irish Standard  
I.S. EN 60695-7-2:2011

# Fire hazard testing -- Part 7-2: Toxicity of fire effluent - Summary and relevance of test methods (IEC 60695-7 -2:2011 (EQV))

## I.S. EN 60695-7-2:2011

*Incorporating amendments/corrigenda issued since publication:*

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EUROPEAN STANDARD  
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**EN 60695-7-2**

October 2011

ICS 13.220.40; 29.020

English version

**Fire hazard testing -  
Part 7-2: Toxicity of fire effluent -  
Summary and relevance of test methods  
(IEC 60695-7-2:2011)**

Essais relatifs aux risques du feu -  
Partie 7-2: Toxicité des effluents du feu -  
Résumé et pertinence des méthodes  
d'essai  
(CEI 60695-7-2:2011)

Prüfungen zur Beurteilung der  
Brandgefahr -  
Teil 7-2: Toxizität von Rauch und/oder  
Brandgasen -  
Auswertung und Sachdienlichkeit von  
Prüfverfahren  
(IEC 60695-7-2:2011)

This European Standard was approved by CENELEC on 2011-10-04. CENELEC 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.

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**I.S. EN 60695-7-2:2011**

EN 60695-7-2:2011

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**Foreword**

The text of document 89/1059/FDIS, future edition 1 of IEC 60695-7-2, prepared by IEC/TC 89 "Fire hazard testing" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60695-7-2:2011.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2012-07-04
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2014-10-04

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

**Endorsement notice**

The text of the International Standard IEC 60695-7-2:2011 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

ISO 5659-2                      NOTE Harmonized as EN ISO 5659-2.

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60695-7-1	2010	Fire hazard testing - Part 7-1: Toxicity of fire effluent - General guidance	EN 60695-7-1	2010
IEC/TS 60695-7-3	-	Fire hazard testing - Part 7-3: Toxicity of fire effluent - Use and interpretation of test results	-	-
IEC Guide 104	-	The preparation of safety publications and the use of basic safety publications and group safety publications	-	-
ISO/IEC Guide 51	-	Safety aspects - Guidelines for their inclusion in standards	-	-
ISO 13344	-	Estimation of the lethal toxic potency of fire effluents	-	-
ISO 13571	2007	Life-threatening components of fire - Guidelines for the estimation of time available for escape using fire data	-	-
ISO 13943	-	Fire safety - Vocabulary	-	-
ISO 16312-1	2010	Guidance for assessing the validity of physical-fire models for obtaining fire effluent toxicity data for fire hazard and risk assessment - Part 1: Criteria	-	-
ISO/TR 16312-2	2007	Guidance for assessing the validity of physical-fire models for obtaining fire effluent toxicity data for fire hazard and risk assessment - Part 2: Evaluation of individual physical fire models	-	-
ISO 19701	-	Methods for sampling and analysis of fire effluents	-	-
ISO 19702	-	Toxicity testing of fire effluents - Guidance for analysis of gases and vapours in fire effluents using FTIR gas analysis	-	-
ISO 19703	2010	Generation and analysis of toxic gases in fire -- Calculation of species yields, equivalence ratios and combustion efficiency in experimental fires	-	-
ISO 19706	-	Guidelines for assessing the fire threat to people	-	-

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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### **FIRE HAZARD TESTING –**

#### **Part 7-2: Toxicity of fire effluent – Summary and relevance of test methods**

### **FOREWORD**

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60695-7-2 has been prepared by IEC technical committee 89: Fire hazard testing.

This first edition of IEC 60695-7-2 cancels and replaces the first edition of Technical Report IEC/TR 60695-7-2 published in 2002. It constitutes a technical revision and now has the status of an International Standard.

It has the status of a basic safety publication in accordance with IEC Guide 104 and ISO/IEC Guide 51.

The main changes with respect to the previous edition are listed below:

- editorial changes throughout;
- expanded normative references;
- revised terms and definitions;

- modifications to “Repeatability and reproducibility” data throughout;
- modifications to “Relevance of test data” throughout;
- modifications to Clause 5;
- new Table 1 and Figure 1;
- introduction of ISO test method in new Subclause 6.6;
- introduction of test method from EN 50305 in new Subclause 6.8;
- revised Annex A and new Table A.1;
- expanded Bibliography.

The text of this standard is based on the following documents:

FDIS	Report on voting
89/1059/FDIS	89/1073/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all the parts in the 60695 series, under the general title *Fire hazard testing*, can be found on the IEC website.

IEC 60695-7 consists of the following parts:

- Part 7-1: Toxicity of fire effluent – General guidance
- Part 7-2: Toxicity of fire effluent – Summary and relevance of test methods
- Part 7-3: Toxicity of fire effluent – Use and interpretation of test results
- Part 7-50: Toxicity of fire effluent – Estimation of toxic potency – Apparatus and test method
- Part 7-51: Toxicity of fire effluent – Estimation of toxic potency – Calculation and interpretation of test results

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

## INTRODUCTION

The IEC 60695-7 series provides guidance to IEC product committees on the adoption and implementation of the recommendations of ISO/TC 92, for the minimization of toxic hazard from fires involving electrotechnical products.

Electrotechnical products, primarily as the objects of a fire, may contribute to the fire hazard due to release of toxic effluent, which may be a significant contributing factor to the overall fire hazard.

IEC product committees incorporating requirements for the assessment of toxic hazard from fire in product standards should note that toxic potency and other measurements of toxicity which are described in this international standard should not be used directly in product specifications. Data from toxic potency test methods should only be used as part of a toxic hazard assessment, in conjunction with other product-based reaction to fire data such as mass loss rate.

## **FIRE HAZARD TESTING –**

### **Part 7-2: Toxicity of fire effluent – Summary and relevance of test methods**

#### **1 Scope**

This part of IEC 60695 gives a brief summary of the test methods that are in common use in the assessment of acute toxic potency, and other toxicity tests. It includes special observations on their relevance to real fire scenarios and gives recommendations on their use.

It advises which tests provide toxic potency data that are relevant to real fire scenarios, and which are suitable for use in fire hazard assessment and fire safety engineering.

This basic safety publication is intended for use by technical committees in the preparation of standards in accordance with the principles laid down in IEC Guide 104 and ISO/IEC Guide 51.

One of the responsibilities of a technical committee is, wherever applicable, to make use of basic safety publications in the preparation of its publications. The requirements, test methods or test conditions of this basic safety publication will not apply unless specifically referred to or included in the relevant publications.

#### **2 Normative references**

The following referenced documents are indispensable for the application 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.

IEC 60695-7-1:2010, *Fire hazard testing – Part 7-1: Toxicity of fire effluent – General guidance*

IEC/TS 60695-7-3, *Fire hazard testing – Part 7-3: Toxicity of fire effluent – Use and interpretation of test results*

IEC Guide 104, *The preparation of safety publications and the use of basic safety publications and group safety publications*

ISO/IEC 13943, *Fire safety – Vocabulary*

ISO/IEC Guide 51, *Safety aspects – Guidelines for their inclusion in standards*

ISO 13344, *Estimation of the lethal toxic potency of fire effluents*

ISO 13571:2007, *Life-threatening components of fire – Guidelines for the estimation of time available for escape using fire data*

ISO 16312-1:2010, *Guidance for assessing the validity of physical fire models for obtaining fire effluent toxicity data for fire hazard and risk assessment – Part 1: Criteria*

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