

SLOVENSKI STANDARD

oSIST prEN 71-2:2019

01-marec-2019

Varnost igráč - 2. del: Vnetljivost

Safety of toys - Part 2: Flammability

Sicherheit von Spielzeug - Teil 2: Entflammbarkeit

Sécurité des jouets - Partie 2: Inflammabilité

Ta slovenski standard je istoveten z: prEN 71-2

ICS:

13.220.40	Sposobnost vžiga in obnašanje materialov in proizvodov pri gorenju	Ignitability and burning behaviour of materials and products
97.200.50	Igrače	Toys

oSIST prEN 71-2:2019

en,fr,de

ITEH STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
<https://standards.iteh.ai/catalog/standards/sist/5b19b6c-ba0b-4d6d-903b-dd4ad0346c6d/osist-pr-en-71-2-2019>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 71-2

February 2019

ICS 13.220.40; 97.200.50

Will supersede EN 71-2:2011+A1:2014

English Version

Safety of toys - Part 2: Flammability

Sécurité des jouets - Partie 2: Inflammabilité

Sicherheit von Spielzeug - Teil 2: Entflammbarkeit

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 52.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

Page

European foreword.....	4
Introduction	6
1 Scope	7
2 Normative references	7
3 Terms and definitions	7
4 Requirements	9
4.1 General requirements	9
4.2 Toys to be worn on the head (see A.4).....	10
4.2.1 General.....	10
4.2.2 Beards, moustaches, wigs, etc., made from hair, pile or material with similar features (e.g. free-hanging ribbons, paper, cloth strands or other flowing elements), which protrude 50 mm or more from the surface of the toy.....	10
4.2.3 Beards, moustaches, wigs, etc., made from hair, pile or material with similar features (e.g. free-hanging ribbons, paper, cloth strands or other flowing elements), which protrude less than 50 mm from the surface of the toy	10
4.2.4 Full or partial moulded head masks	11
4.2.5 Flowing elements of toys to be worn on the head (except those covered by 4.2.2 and 4.2.3), hoods, head-dresses, etc. and masks not covered by 4.2.4 which partially or fully cover the head (e.g. fabric and cardboard masks, eye masks, face masks), but excluding those items covered by 4.3.....	11
4.3 Toy disguise costumes and toys intended to be worn by a child in play (see A.5)	11
4.4 Toys intended to be entered by a child (see A.6).....	11
4.5 Soft-filled toys (see A.7)	11
5 Test methods	12
5.1 General.....	12
5.1.1 Test burner.....	12
5.1.2 Conditioning and test chamber	12
5.1.3 Test flame.....	12
5.2 Test relating to beards, moustaches, wigs, etc., made from hair, pile or material with similar features (e.g. free-hanging ribbons, paper, cloth strands or other flowing elements), which protrude 50 mm or more from the surface of the toy	12
5.2.1 Test flame.....	12
5.2.2 Test burner position	12
5.2.3 Test performance.....	12
5.3 Test relating to beards, moustaches, wigs, etc., made from hair, pile or material with similar features (e.g. free-hanging ribbons, paper, cloth strands or other flowing elements), which protrude less than 50 mm from the surface of the toy, and full or partial moulded head masks (see A.8)	13
5.3.1 Test flame.....	13
5.3.2 Test burner position	13
5.3.3 Test performance.....	13
5.4 Test relating to flowing elements of toys to be worn on the head (except those covered by 4.2.2 and 4.2.3), hoods, head-dresses, etc. and masks not covered by 4.2.4 which partially or fully cover the head (e.g. fabric and cardboard masks, eye masks,	

	face masks), <i>toy disguise costumes</i> and toys intended to be worn or toys intended to be entered by a child (see A.9).....	13
5.4.1	Preparation of test sample.....	13
5.4.2	Holding and positioning the test sample.....	16
5.4.3	Test flame.....	19
5.4.4	Test burner position.....	19
5.4.5	Test performance	19
5.4.6	Results	20
5.5	Test for soft-filled toys.....	20
5.5.1	Test flame	20
5.5.2	Test burner position.....	20
5.5.3	Test performance	20
Annex A (informative)	Background and rationale for this document.....	21
A.1	General	21
A.2	Scope	21
A.3	General requirements (see 4.1)	21
A.4	Toys to be worn on the head (see 4.2)	21
A.5	<i>Toy disguise costumes</i> and toys intended to be worn by a child in play (see 4.3).....	26
A.6	Toys intended to be entered by a child (see 4.4)	28
A.7	Soft-filled toys (see 4.5).....	28
A.8	Test relating to full or partial moulded head masks (see 5.3)	28
A.9	Test relating to <i>toy disguise costumes</i> and toys intended to be entered by a child (see 5.4)	28
A.10	Flowcharts showing how to obtain test specimens from <i>toy disguise costumes</i>	30
Annex B (informative)	Significant technical changes between this European Standard and the previous version.....	33
Annex ZA (informative)	Relationship between this part of EN 71 and the essential requirements of EU Directive 2009/48/EC [4].....	34
Bibliography	34

European foreword

This document (prEN 71-2:2019) has been prepared by Technical Committee CEN/TC 52 “Safety of toys”, the secretariat of which is held by DS.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 71-2:2011+A1:2014.

Annex B provides details of significant technical changes between this European Standard and the previous edition.

This document has been prepared under mandate M/445 given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive 2009/48/EC.

For relationship with EU Directive 2009/48/EC, see informative Annex ZA, which is an integral part of this document.

This document constitutes the second part of the series on safety of toys and is read in conjunction with Part 1.

This document for safety of toys consists of the following parts:

- *Part 1: Mechanical and physical properties*
- *Part 2: Flammability*
- *Part 3: Migration of certain elements*
- *Part 4: Experimental sets for chemistry and related activities*
- *Part 5: Chemical toys (sets) other than experimental sets*
- *Part 7: Finger paints — Requirements and test methods*
- *Part 8: Activity toys for domestic use*
- *Part 9: Organic chemical compounds — Requirements*
- *Part 10: Organic chemical compounds — Sample preparation and extraction*
- *Part 11: Organic chemical compounds — Methods of analysis*
- *Part 12: N-Nitrosamines and N-nitrosatable substances*
- *Part 13: Olfactory board games, cosmetic kits and gustative games*
- *Part 14: Trampolines for domestic use*

NOTE 1 In addition to the above parts of EN 71, the following guidance documents have been published:

- CEN Technical Report CEN/TR 15071, Safety of toys — National translations of warnings and instructions for use in *EN 71*, and
- CEN Technical Report CEN/TR 15371 (all parts), *Safety of toys — Interpretations*
- CEN Technical Report CEN/TR 16918: *Safety of toys - Children's mouthing behaviour in contact with toys*
- CEN Technical Report CEN ISO/TR 8124-8:2016: *Safety of toys – Age determination guidelines*

NOTE 2 Words in italics are defined in Clause 3 (Terms and definitions). Additional information on the background and rationale for various requirements is given in Annex A.

NOTE 3 Different legal requirements may exist in non-EU countries.

ITEH STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
<https://standards.iteh.ai/catalog/standards/sist/5b19bfc-ba0b-4d6d-903b-4d4ad0346c6d/osist-pren-71-2-2019>

Introduction

This document aims at reducing as far as possible those hazards which are not evident to users; it does not cover inherent hazards that are obvious to children or the persons in charge of them. Assuming that the toys are used in the intended manner, they should not present any further hazard to children for whom they are intended (according to the Directive 2009/48/EC “intended for use by” means that a parent or supervisor shall reasonably be able to assume by virtue of the functions, dimensions and characteristics of a toy that it is intended for use by children of the stated age group). Allowance should also be made for foreseeable use, bearing in mind the behaviour of children who do not generally share the same degree of care as the average adult user.

As a general rule, toys are designed and manufactured for particular ages of children. Their characteristics are related to the age and stage of development of the children, and their use presupposes certain aptitudes.

Accidents are frequently due to a toy either being given to a child for whom it is not intended, or being used for a purpose other than that for which it was designed. Great care should therefore be taken when choosing a toy; account should be taken of the mental and physical development of the child who will be using it.

The requirements of this document do not release parents or carers from their responsibility of watching over the child while he or she is playing.

ITEH STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
<https://standards.iteh.ai/catalog/standards/sist/5b19bfc-ba01-4d6d-903b-dd4ad0346c6d/osist-pren-71-2-2019>

1 Scope

This document specifies the categories of flammable materials which are prohibited in all toys, and requirements concerning *flammability* of certain toys when they are subjected to a small source of ignition.

The test methods described in Clause 5 are used for the purposes of determining the *flammability* of toys under the particular test conditions specified. The test results thus obtained are not considered as providing an overall indication of the potential fire hazard of toys or materials when subjected to other sources of ignition.

This document includes general requirements relating to all toys and specific requirements and methods of test relating to the following toys, which are considered as being those presenting the greatest hazard:

- toys to be worn on the head: beards, moustaches, wigs, etc. made from *hair*, pile or *material with similar features*; masks; hoods, head-dresses, etc.; flowing elements of toys to be worn on the head, but excluding paper novelty hats of the type usually supplied in party crackers;
- toy *disguise costumes* and toys intended to be worn by a child in play;
- toys intended to be entered by a child;
- *soft-filled toys*.

NOTE Additional requirements for *flammability* of electric toys are specified in EN 62115:2005.

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 ISO 2431:2011, *Paints and varnishes - Determination of flow time by use of flow cups (ISO 2431:2011)*

EN ISO 6941:2003, *Textile fabrics - Burning behaviour - Measurement of flame spread properties of vertically oriented specimens (ISO 6941:2003)*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia. available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

flammability

ability of a material or a product to burn with a flame under specified test conditions

3.2

flaming debris

material that becomes detached from the sample during the test procedure and continues to flame as it falls

prEN 71-2:2019 (E)

3.3

hair

slender flexible fibres intended to represent human or animal hair

3.4

soft-filled toy

toy, clothed or unclothed, with soft body surfaces and filled with soft material, readily allowing compression of the main part of the toy with the hand

3.5

surface flash

rapid spread of flame over the surface of a material without ignition of its base structure at the same time

3.6

molten drips

falling droplets of molten material

3.7

flammable liquid

liquid having a flash point $\geq 23\text{ °C}$ and $\leq 60\text{ °C}$

[SOURCE REGULATION (EC) No 1272/2008]

3.8

highly flammable liquid

liquid having a flash point $< 23\text{ °C}$ and initial boiling point $> 35\text{ °C}$

[SOURCE REGULATION (EC) No 1272/2008]

3.9

extremely flammable liquid

liquid having a flash point $< 23\text{ °C}$ and initial boiling point $\leq 35\text{ °C}$

[SOURCE REGULATION (EC) No 1272/2008]

3.10

flammable gas

gas or gas mixture having a flammable range with air at 20 °C and a standard pressure of $101,3\text{ kPa}$

[SOURCE REGULATION (EC) No 1272/2008]

3.11

chemical toy

toy intended for the direct handling of chemical substances and mixtures and which is used in a manner appropriate to a given age-group and under the supervision of an adult

3.12

material with similar features to hair

material having the ability to flow like *hair*, to hang closely to the head and continue to move on its own after the head is rotated then stopped

3.13**moulded head mask**

mask that is moulded to the contours of the head or face

3.14**disguise costume**

costume and components, intended to be worn by children to facilitate imaginative play where the child pretends to be a character, for example, a cowboy, a superhero, a princess, a monster etc

Note 1 to entry: costumes and garments for children under 12 months are not regarded as toy disguise costumes since such children are unable to engage in character role play

3.15**highly flammable solid**

material with similar behaviour in fire as celluloid (cellulose nitrate), i.e. ignites instantaneously in brief contact with a flame and proceeds to burn very rapidly

Note 1 to entry: further information is provided in A.3

3.16**hem**

folded over flap of fabric secured to itself usually by sewing and sometimes using a fusible tape to provide a neat finish to an edge, e.g. bottom edge of trousers and skirts

4 Requirements**4.1 General requirements**

The following materials shall not be present in toys:

- celluloid (cellulose nitrate), except when used in varnish, paint or glue, or in balls of the type used for table tennis or similar games, and
- *highly flammable solids* (see A.3).

Specific materials to which the test flame is applied in order to check compliance of the toy with requirements in 4.2 to 4.5 are considered to comply with the above requirements if the toy meets its appropriate requirements in 4.2 to 4.5:

- materials with a piled surface which produce *surface flash* when a flame is applied to the tested material under the conditions described in 5.5 (test for soft-filled toys) Piled surfaces showing no momentary area of flame over the area of the piled surface remote from the test flame are considered to meet this requirement.

In addition, toys shall not contain *flammable gases*, *extremely flammable liquids*, *highly flammable liquids*, *flammable liquids* and flammable gels except as provided for below:

- *flammable liquids* and flammable gels supplied in sealed containers having a maximum volume of 15 ml per container;
- *highly flammable liquids* and *flammable liquids* being entirely retained within a porous material in capillary channels of writing instruments;
- *flammable liquids* with a viscosity greater than $260 \times 10^{-6} \text{ m}^2/\text{s}$ corresponding to a flow time of more than 38 s when determined in accordance with EN ISO 2431:2011 using cup No. 6;