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Safety of toys - Part 4: Experimental sets for chemistry and related activities

Sicherheit von Spielzeug - Teil 4: Experimentierkästen für chemische und ähnliche Versuche

Sécurité des jouets - Partie 4 : Coffrets d'expériences chimiques et d'activités connexes

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97.200.50 Igrače Toys

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 71-4:2020+A1

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English Version

Safety of toys - Part 4: Experimental sets for chemistry and related activities

Sécurité des jouets - Partie 4 : Coffrets d'expériences chimiques et d'activités connexes

Sicherheit von Spielzeug - Teil 4: Experimentierkästen für chemische und ähnliche Versuche

This European Standard was approved by CEN on 11 October 2020 and includes Amendment 1 approved by CEN on 4 February 2025.

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European foreword

This document (EN 71-4:2020+A1:2025) has been prepared by Technical Committee CEN/TC 52 “Safety of toys”, the secretariat of which is held by DS.

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of an identical text or by endorsement, at the latest by October 2025, and conflicting national standards shall be withdrawn at the latest by October 2025.

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

This document includes Amendment 1 approved by CEN on 4 February 2025.

This document supersedes ⟦A1⟩ EN 71-4:2020 ⟨A1⟧.

The start and finish of text introduced or altered by amendment is indicated in the text by tags ⟦A1⟩ ⟨A1⟧.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States

For the relationship with EU Legislation, see informative Annex ZA, which is an integral part of this document.

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The significant changes from the previous edition of this document are detailed in Annex C.

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Additional information on the background and rationale for various requirements are given in Annex A.

This document constitutes the fourth part of the EN 71 series of standards on safety of toys.

EN 71, *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* (the present document)
— *Part 5: Chemical toys (sets) other than experimental sets*
— *Part 7: Finger paints — Requirements and test methods*
— *Part 8: Activity toys for domestic use*

⟦A1⟩ *Deleted text* ⟨A1⟧

— *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*

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[A1] — *Part 15: Formamide in foam toy materials (content).*

— *Part 16: Certain chlorinated phosphorus flame retardants (TCEP, TCPP, TDCP) in toy materials.*

— *Part 17: Certain isothiazolinones (MIT, CIT, BIT) in aqueous toy materials.*

— *Part 18: Phenol in aqueous (content) and polymeric (migration) toy materials.*

— *Part 19: Migration of bisphenol A from toy materials. (under preparation).*

— *Part 20: Microbiological safety of toys containing accessible aqueous media. (under preparation).* [/A1]

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

— CEN/TR 15071, *Safety of toys — National translations of warnings and instructions for use in the EN 71 series*,

— CEN/TR 15371 (all parts), *Safety of toys — Interpretations*,

— CEN/TR 16918, *Safety of toys — Children's mouthing behaviour in contact with toys*,

— CEN ISO/TR 8124-8, *Safety of toys — Part 8: Age determination – First age grade for the appropriate play of toys*.

[A1] — CEN/TS 17973: *Safety of toys — Categorization of slime type materials*, and

— CEN/TR 17695: *Safety of toys — Mechanical and physical properties — Guidance on categorisation of projectile toys within EN 71-1* [/A1]

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NOTE 2 Words in *italics* (apart from document titles) are defined in Clause 3 (Terms and definitions).

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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Introduction

This document is intended to reduce the risks and health hazards to a child when *experimental sets* involving chemical experiments are used as intended or in a foreseeable way, bearing in mind the behaviour of children.

During use of these *experimental sets*, the hazards should be kept to a minimum by the provision of appropriate information to make the experiments safe and controllable. Therefore, this document specifies warning phrases and instructions for use for *experimental sets*.

As a general rule, *experimental sets* 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. Age requirements are therefore given.

The requirements of this document do not release parents or carers from their responsibility of watching over the child while he or she is carrying out experiments. On the contrary, the use of these sets requires close supervision by adults.

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1 Scope

This document specifies requirements for the maximum amount, and in some cases, the maximum concentration of certain substances and mixtures used in *experimental sets* for chemistry and related activities.

These substances and mixtures are:

— those classified as hazardous by the EC-legislation applying to hazardous substances and hazardous mixtures [1];

— substances and mixtures which in excessive amounts could harm the health of the children using them and which are not classified as hazardous by the above-mentioned legislation; and

— any other chemical substance(s) and mixture(s) delivered with the *experimental set*.

This document applies to *experimental sets* for chemistry and related activities including *crystal growing sets*, *carbon dioxide generating experimental sets* and *supplementary sets*. It also covers sets for chemical experiments within the fields of mineralogy, biology, physics, microscopy and environmental science whenever they contain one or more chemical substances and/or mixtures which are classified as hazardous according to Regulation (EC) No. 1272/2008 [1].

This document also specifies requirements for marking, a contents list, instructions for use, eye protection and for the equipment intended for carrying out the experiments.

This document does not apply to combined sets, e.g. a combination of a *chemistry set* and a *crystal growing set*. It also does not apply to toys that are covered by EN 71-13 (e.g. *cosmetic kits*). Requirements for certain other *chemical toys* are given in EN 71-5.

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NOTE The terms “substance” and “preparation”, are used in the “REACH Regulation”, Regulation (EC) No. 1907/2006 [2]. According to the Globally Harmonized System (GHS) of classification and labelling of chemicals, which in the European Union has been enacted by Regulation (EC) No. 1272/2008 (classification, labelling and packaging of substances and mixtures) [1], the timetable for the introduction of GHS is followed. The words “preparation” and “mixture” are considered synonymous; both are a mixture or solution of substances that do not react with each other. The old term “preparation” will be replaced by the new term “mixture” in due course. In this document, only the term “mixture” is used.

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 71-1:2014+A1:2018, *Safety of toys - Part 1: Mechanical and physical properties*

EN 71-5:2015, *Safety of toys - Part 5: Chemical toys (sets) other than experimental sets*

〈A1〉 EN ISO 28862:2023, *Packaging - Child-resistant packaging - Requirements and testing procedures for non-reclosable packages for non-pharmaceutical products (ISO 28862:2018)* 〈A1〉

EN ISO 8317:2015, *Child-resistant packaging - Requirements and testing procedures for reclosable packages (ISO 8317:2015)*

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