



SLOVENSKI STANDARD
SIST EN 71-4:1995/A3:2007

01-oktober-2007

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Safety of toys - Part 4: Experimental sets for chemistry and related activities -
Amendment A3

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

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

Ta slovenski standard je istoveten z: **EN 71-4:1990/A3:2007**

ICS:

97.200.50 Q|æ^ Toys

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ICS 97.200.50

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 amendment A3 modifies the European Standard EN 71-4:1990; it was approved by CEN on 26 April 2007.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This amendment 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 CEN Management Centre has the same status as the official versions.

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

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Foreword

This document (EN 71-4:1990/A3:2007) has been prepared by Technical Committee CEN/TC 52 "Safety of toys", the secretariat of which is held by DS.

This Amendment to the European Standard EN 71-4:1990 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2007, and conflicting national standards shall be withdrawn at the latest by November 2007.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive 88/378/EEC.

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

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

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Replace the heading "Brief history" by "Introduction".

Add to the "Introduction" after the last paragraph:

The following technical changes were introduced by EN 71-4:1990/A3:2007:

- deletion of dangerous substances which are suspected of having carcinogenic, mutagenic or toxic for reproduction (CMR) properties;
- improvement in the classification of substances.

Replace Clause 1 "Object" and Clause 2 "Field of application" with the following:

1 Scope

"This part of the European Standard EN 71 specifies requirements for the maximum amount of certain substances and preparations used in experimental sets for chemistry and related activities.

These substances and preparations are

- chemicals classified as dangerous by the Directives on dangerous substances [1] and dangerous preparations [2] (including substances which have been self-classified according to the requirements of these Directives);
- substances and preparations which in excessive amounts may harm the health of the children using them but which are not classified as dangerous by the above mentioned Directives and
- other chemical substances and preparations delivered with the toy.

This standard applies to chemistry sets and supplementary sets. It also covers toys for experiments within the fields of mineralogy, biology, physics, microscopy and environmental science whenever they contain one or more chemical substances and/or preparations.

It also specifies requirements for marking, contents list, instructions for use and for equipment intended for carrying out the experiments."

Renumber all the subsequent clauses and subclauses.

Replace Clause 3 "References" with Clause 2 "Normative references"

Delete "EN 71-1:1988, Directive 67/548/EEC, 88/379/EEC" and the" footnotes 1 and 2".

Replace "EN 28317" and its title with "EN ISO 8317, Child-resistant packaging - Requirements and testing procedures for reclosable packages (ISO 8317:2003)".

In former Clause 5 change the 1st paragraph as follows:

"Only chemical substances, preparations and indicators given in Table 1 and Table 2..."

In the second paragraph of former Clause 5, Chemical substances, replace:

".....within the definitions contained in Directives 67/548/EEC (with subsequent amendments and adaptations) and 88/379/EEC (with subsequent amendments and adaptations)."

with “(see [1] and [2])”

In former Clause 5 put the 3rd paragraph before the 2nd paragraph and change "...referred to in Table 2..." to "...referred to in Table 3..."

Replace Table 1 with the following:

Table 1 — Maximum amounts of chemical substances and preparations and labelling

Chemical substances / preparation ^a	Max. amount per set	Danger symbol(s) (see Figure 1 and Figure 2)	CAS number ^b	EINECS number ^b
Aluminium potassium sulfate ^c	10 g	–	10043-67-1	233-141-3
Ammonium carbonate ^g	5 g	Xn	10361-29-2	233-786-0
Ammonium chloride	30 g	Xn	12125-02-9	235-186-4
Ammonium iron (III) sulfate ^g	5 g	Xi	10138-04-2	233-382-4
Ammonium sodium hydrogen phosphate	5 g	–	13011-54-6	235-860-8
Calcium carbonate ^g	100 g	Xi	471-34-1	207-439-9
Calcium chloride	10 g	Xi	10043-52-4	233-140-8
Calcium hydroxide ^{d, g}	20 g	Xi	1305-62-0	215-137-3
Calcium nitrate ^g	5 g	Xi, O	10124-37-5	233-332-1
Calcium oxide ^{d, g}	10 g	C	1305-78-8	215-138-9
Calcium sulfate	100 g	–	7778-18-9	231-900-3
Charcoal ^c	100 g	–	7440-44-0	231-153-3
Citric acid ^g	20 g	Xi	77-92-9	201-069-1
Clove oil ^{c, g, i}	10 ml	Xn	84961-50-2	284-638-7
Copper sheet	100 g	–	7440-50-8	231-159-6
Copper (II) oxide ^g	10 g	Xn	1317-38-0	215-269-1
Copper (II) sulfate	15 g	Xn, N	7758-98-7	231-847-6
Disodium disulfite	10 g	Xn	7681-57-4	231-548-0

Table 1 (continued)

Chemical substances / preparation ^a	Max. amount per set	Danger symbol(s) (see Figure 1 and Figure 2)	CAS number ^b	EINECS number ^b
Glycerol (containing at least 15 % water)	25 g	-	56-81-5	200-289-5
Hexamethylene-tetramine ^c (solid fuel)	10 g	Xn, F	100-97-0	202-905-8
Iron fillings/iron powder ^{c, 9}	100 g	F	7439-89-6	231-096-4
Iron (III) chloride ⁹	10 g	Xn	7705-08-0	231-729-4
Iron (II) sulfate ⁹	10 g	Xn	7720-78-7	231-753-5
Lactose	100 g	-	63-42-3	200-559-2
Lead-free solder ^c	100 g	-	-	-
Magnesium strip ⁹	3 g	F	7439-95-4	231-104-6
Magnesium sulfate	25 g	-	7487-88-9	231-298-2
Manganese (IV) dioxide	5 g	Xn	1313-13-9	215-202-6
Manganese (II) sulfate	15 g	Xn, N	7785-87-7	232-089-9
Ninhydrin ⁹	1 g	Xn	485-47-2	207-618-1
Pepsin A	10 g	Xn	9001-75-6	232-629-3
Potassium bromide ⁹	15 g	Xi	7758-02-3	231-830-3
Potassium hexacyanoferrate (III) ^c	10 g	-	13746-66-2	237-323-3
Potassium hexacyanoferrate (II) ^c	10 g	-	13943-58-3	237-722-2
Potassium iodide	10 g	-	7681-11-0	231-659-4
Potassium permanganate ^e	15 g	Xn, O, N	7722-64-7	231-760-3
Potassium permanganate: sodium sulphate mixture (1:2 <i>m/m</i>)	10 g	Xn, O, N	-	-
Silver nitrate (1 % <i>m/V</i> aqueous solution) ⁹	10 ml	Xi, N	7761-88-8	231-853-9
Sodium acetate	20 g	-	127-09-3	204-823-8
Sodium carbonate	50 g	Xi	497-19-8	207-838-8
Sodium chloride	100 g	-	7647-14-5	231-598-3
Sodium hydrogen carbonate	50 g	-	144-55-8	205-633-8
Sodium hydrogen sulphate	30 g	Xi	7681-38-1	231-665-7

Table 1 (concluded)

Chemical substances / preparation ^a	Max. amount per set	Danger symbol(s) (see Figure 1 and Figure 2)	CAS number ^b	EINECS number ^b
Sodium silicate solution (SiO ₂ :Na ₂ O > 2) ^g	100 ml	C	–	–
Sodium sulfate	100 g	–	7757-82-6	231-820-9
Sodium thiosulfate	50 g	–	7772-98-7	231-867-5
Sulfur ^g	15 g	F	7704-34-9	231-722-6
Tannin ^c	15 g	–	1401-55-4	215-753-2
Tartaric acid ^g	20 g	Xi	87-69-4	201-766-0
Tin (II) chloride ^g	15 g	C	7772-99-8	231-868-0
Tincture of iodine ^c (2,5 % m/V ethanolic solution) ^h	10 ml	Xn ^f , N ^f , F	–	–
Urea ^c	10 g	–	57-13-6	200-315-5
Zinc powder / zinc pellets	20 g	F, N	7440-66-6	231-175-3
Zinc sulfate (heptahydrate)	20 g	Xn, N	7446-20-0	231-793-3

^a The substances and preparations in Table 1 are listed in alphabetical order and may therefore be placed in different positions in the national translations.

^b Chemical Abstract Service (CAS) registry number and European Inventory of Existing Chemical Substances (EINECS) number are provided for information purposes only.

^c The chemical nomenclature is mainly based on IUPAC with the exceptions of the substances marked.

^d Only one of these substances shall be provided per set.

^e Only to be provided in sets intended for children over the age of 12 years.

^f Xn and N apply to iodine, not to its ethanolic solution.

^g The classifications of the substances correspond to the most stringent self-classifications according to manufacturer's literature.

^h Denaturated alcohol (ethanol)

ⁱ The following R- and S-phrases shall be given:

Clove oil Risk phrase: R43 May cause sensitization by skin contact
Safety advice phrase: S24 Avoid contact with skin.

If indicators are supplied as solutions, their solid contents shall not exceed the amounts specified in Table 2.

NOTE Non-bleeding indicators in books, pads or rolls are far below toxicological levels of concern and may be supplied without any amount-limitations for indicators.

Table 2 — Maximum amounts of indicators and labelling

Chemical substances / preparation ^a	Max. amount per set	Danger symbol(s) (see Figure 1 and Figure 2)	CAS number ^b	EINECS number ^b
Eosin ^{c,e}	1 g	Xi	17372-87-1	241-409-6
Iodine (2,5 % m/V) in potassium iodide (2,5 % m/V aqueous solution)	10 ml	Xn ^d , N ^d	7553-56-2	231-442-4
Litmus blue ^c	1 g	-	-	-
Litmus red ^c	1 g	-	1393-92-6	215-739-6
Luminol (5 % (m/m) mixture with sodium sulfate) ^{c, e}	3 g	Xn	521-31-3	208-309-4
Methyl orange ^{c, e} (20 % m/m sodium sulfate mixture)	3 g	T	547-58-0	208-925-3
Methylene blue ^{c, e}	1 g	Xn	61-73-4	200-515-2
Phenol red ^e	1 g	Xi	143-74-8	205-609-7
Thymol blue	1 g	-	76-61-9	200-973-3
Bleeding universal indicator paper ^c	1 pad	-	-	-

^a The substances and preparations in Table 2 are listed in alphabetical order and may therefore be placed in different positions in the national translations.

^b Chemical Abstract Service (CAS) registry number and European Inventory of Existing Chemical Substances (EINECS) number are provided for information purposes only.

^c The chemical nomenclature is mainly based on IUPAC with the exceptions of the substances marked.

^d Xn and N apply to iodine, not to its aqueous solution.

^e The classifications of the substances correspond to the most stringent self-classifications according to manufacturer's literature.

Add to Figure 1:

T



Toxic