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GB 30585—2024
Replace GB 30585—2014

Safety technical specifications for infants' and children's footwear

童鞋安全技术规范

(English Translation)

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Foreword

SAC/TC 305 (National Technical Committee on Footwear of Standardization Administration of China) is in charge of this English translation. In case of any doubt about the contents of English translation, the Chinese original shall be considered authoritative.

This document is drafted in accordance with the rules given in the GB/T 1.1—2020 *Directives for standardization — Part 1: Rules for the structure and drafting of standardizing documents*.

This document replaces the GB 30585—2014 *Safety technical specifications for children's footwear*. In addition to a number of structural and editorial changes, the main technical differences compared with the GB 30585—2014 are as follows:

- a) Revise the scope (see Clause 1, Clause 1 of the 2014 edition);
- b) Revise terms and definitions (see Clause 3, Clause 3 of the 2014 edition);
- c) Delete the requirement and test method for “steel shanks” (see 5.1.6 and 6.3 of the 2014 edition);
- d) Revise “requirements for small accessories for infants’ footwear” (see 5.2, 5.1.4 and 5.1.5 of the 2014 edition);
- e) Delete the requirement and test method for “odor” (see 5.2 and 6.5 of the 2014 edition);
- f) Revise the requirement and test method for “chromium (VI)” (see 5.3 and 6.5, 5.3 and 6.6 of the 2014 edition);
- g) Revise the requirement and test method for “dyes with decomposable carcinogenic aromatic amines ” (see 5.3 and 6.6, 5.3 and 6.7 of the 2014 edition);
- h) Revise the requirement and test method for “formaldehyde” (see 5.3 and 6.7, 5.3 and 6.8 of the 2014 edition);
- i) Revise the requirement for “total heavy metal content” (see 5.3, 5.3 of the 2014 edition);
- j) Revise the requirement for “dimethyl fumarate” (see 5.3, 5.3 of the 2014 edition);
- k) Add the requirement and test method for “chlorinated phenols” (see 5.3 and 6.10);

- l) Revise the test method for “N-nitrosamines” (see 6.11, 6.11 of the 2014 edition);
- m) Revise the requirement for “phthalates” (see 5.3, 5.3 of the 2014 edition);
- n) Add the requirement and test method for “short-chain chlorinated paraffins” (see 5.3 and 6.13);
- o) Revise the test method for “broken needles” (see 6.1, 6.2 of the 2014 edition);
- p) Delete the Annex A “Examples of classification of some accessories” (see Annex A of the 2014 edition);
- q) Add the Annex A “List of carcinogenic aromatic amines” (see Annex A);
- r) Revise the Annex C “List of restricted phthalate plasticizers” (see Annex C, Annex C of the 2014 edition);
- s) Delete the Annex D “Test method for tensile strength of small accessories” (see Annex D of the 2014 edition).

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

This document was proposed and prepared by Ministry of Industry and Information Technology of the People's Republic of China.

The previous editions of this document are as follows:

——The first edition was issued in 2014 as GB 30585—2014;

——This is the first revised edition.

Safety technical specifications for infants' and children's footwear

1 Scope

This document defines terms and definitions for infants' and children's footwear safety, specifies product classification, technical requirements, and judgment, and describes the corresponding test methods.

This document is applicable to footwear products made of various materials intended for infants and children aged 14 years and under.

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.

GB/T 2703 *Footwear—Vocabulary*

GB/T 2912.1 *Textiles—Determination of formaldehyde—Part 1: Free and hydrolyzed formaldehyde (water extraction method)*

GB 6675.2—2014 *Safety of toys—Part 2: Mechanical and physical properties*

GB/T 17592 *Textiles—Determination of the banned azo colourants*

GB/T 18414.1 *Textiles—Determination of the content of chlorinated phenols—Part 1: Gas chromatography/mass spectrography*

GB/T 19941.1 *Leather and fur—Determination of formaldehyde content—Part 1: High performance liquid chromatography method*

GB/T 19941.2 *Leather and fur—Determination of formaldehyde content—Part 2: Colorimetric method*

GB/T 19942 *Leather and fur—Chemical tests—Determination of banned azo colorants*

GB/T 22807 *Leather and fur—Chemical tests—Determination of chromium (VI) content: Colorimetric*

GB 30585—2024

method

GB/T 22808 *Leather and fur—Chemical tests—Determination of chlorinated phenols content*

GB/T 26713 *Footwear—Chemical tests—Determination of dimethyl fumarate (DMF)*

GB/T 32440.1 *Footwear—Chemical tests—Determination of phthalate—Part 1: Solvent extraction*

GB/T 38402 *Leather and fur—Chemical tests—Determination of chromium (VI) content: Chromatographic method*

GB/T 38405 *Leather and fur—Chemical tests—Determination of short-chain chlorinated paraffins*

GB/T 40263 *Textiles—Determination of short chain chlorinated paraffins*

QB/T 4340 *Footwear—Chemical test method—Total heavy metal content-Inductively coupled plasma emission spectroscopy*

SN/T 3814 *Determination of short chain chloroparaffin in rubber and plastic products—Gas chromatography tandem mass spectrometry (GC-MS/MS) method*

ISO 19577:2019 *Footwear—Critical substances potentially present in footwear and footwear components—Determination of nitrosamines*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in GB/T 2703 and the following apply.

3.1

accessible

an articulated probe is manoeuvred to the part or component being tested. If any portion forward of the collar contacts the part or component, that part or component on the footwear is considered to be accessible

[Source: GB 6675.2—2014, 5.7.1, modified]

3.2

sharp edge

line, formed at the junction of two surfaces on any part of infants' and children's footwear, whose length exceeds 2.0 mm and can cause injury to the user

3.3

sharp point

a protruding point on any part of infants' and children's footwear that can cause injury to the user

3.4

removable small accessory

part or component that is intended to be removed from the footwear without the use of tools

[Source: GB 6675.2—2014, 3.43, modified]

3.5

children's footwear

footwear with the shoe size greater than 170, generally intended for children aged over 3 years and up to 14 years

[Source: GB/T 2703—2017, 2.2.10, modified]

3.6

infants' footwear

footwear with the shoe size no greater than 170, generally intended for infants aged 3 years and under

[Source: GB/T 2703—2017, 2.2.44, modified]

4 Product classification

Infants' and children's footwear is classified into the following two categories according to end users:

- a) Infants' footwear;
- b) Children's footwear.

5 Technical requirements

5.1 Basic requirements

5.1.1 Broken needles shall not be present inside or outside footwear.

5.1.2 Accessible sharp edges and sharp points shall not be present inside or outside footwear, except for functional spikes on children's performance track and field shoes, football shoes and others.

5.1.3 The effective heel height shall not be greater than 25 mm.

5.2 Requirements for small accessories of infants' footwear

5.2.1 Removable small accessories shall not fit entirely within the small parts cylinder.

5.2.2 Small accessories detached after the specified tension test (including pieces of accessories detached during the tension test and accessories detached together with the upper material) shall not have accessible sharp edges and sharp points, and shall not fit entirely within the small parts cylinder.

5.2.3 Small accessories that are damaged but not detached after the tension test shall not have accessible sharp edges and sharp points.

Note: Small accessories such as fuzz, fibrous filling material, textile fabric (including non-woven fabric), yarn, elastic fabric, drawstring on shoes are exempt from tension test and small parts cylinder test.

5.3 Limit requirements for chemical substances

Limit requirements for chemical substances are listed in Table 1.

Table 1 Limit requirements for chemical substances

No.	Items ^a			Requirements ^b
1	Chromium (VI) (CAS No. 18540-29-9) /(mg/kg)	Genuine leather, fur		≤3
2	Dyes with decomposable carcinogenic aromatic amines °/(mg/kg)	Textiles		≤20
		Artificial leather, synthetic leather		≤30
		Genuine leather, fur		≤30
3	Formaldehyde (CAS No. 50-00-0) /(mg/kg)	Textiles, artificial leather, synthetic leather, genuine leather, fur	Infants' footwear	≤20
			Skin-direct-contact materials in children' s footwear ^d	≤75
			Skin-indirect-contact materials in children' s footwear ^d	≤300
4	Total heavy metal content/(mg/kg)	Coated (printed) materials, artificial leather, synthetic leather, rubber, plastic and other synthetic materials	Lead (CAS No. 7439-92-1)	≤90
			Cadmium (CAS No. 7440-43-9)	≤100
5	Dimethyl fumarate (CAS No. 624-49-7) /(mg/kg)	Textiles, genuine leather, fur, artificial leather, synthetic leather		≤0.1
6	Chlorinated phenols/(mg/kg)	Textiles, artificial leather, synthetic leather	Pentachlorophenol (CAS No. 87-86-5)	≤0.5

No.	Items ^a			Requirements ^b
			2, 3, 5, 6-Tetrachlorophenol (CAS No. 935-95-5)	≤0.5
		Genuine leather, fur	Pentachlorophenol (CAS No. 87-86-5)	≤0.5
7	N-nitrosamines ^e /(mg/kg)	Rubber components	Infants' footwear	≤0.5
8	Phthalates ^f	Coated (printed) materials, artificial leather, synthetic leather, rubber, plastic and other synthetic materials	Infants' footwear	Sum of DINP, DIDP, DNOP ≤0.1%
				Sum of DEHP, DBP, BBP, DIBP ≤0.1%
			Children's footwear	Sum of DEHP, DBP, BBP, DIBP ≤0.1%
9	Short-chain chlorinated paraffins (C ₁₀ ~C ₁₃ , CAS No. 85535-84-8)	Textiles, artificial leather, synthetic leather, genuine leather, fur, rubber, plastic and other synthetic materials		≤0.15%
^a Materials of accessible components shall be tested. ^b When testing the content of chemical substances according to the test method for genuine leather, the results are calculated based on the actual mass of the test specimen. ^c Annex A provides the list of carcinogenic aromatic amines that can be released from dyes by reductive cleavage. ^d In general, linings and insoles (insoles) are materials with direct skin contact, and uppers and outsoles are materials without direct skin contact. However, if there are no linings or insoles (insoles), uppers or outsoles are materials with direct skin contact. ^e Annex B provides the list of prohibited N-nitrosamines in rubber components. ^f Annex C provides the list of restricted phthalate plasticizers.				

6 Test methods

6.1 Broken needles

The test is carried out by metal detectors and/or visual inspection, hand feel.

6.2 Accessible sharp edges and sharp points

The test is carried out according to GB 6675.2—2014, 5.8 and 5.9, respectively.

6.3 Effective heel height

The effective heel height is the difference between the vertical distances from the rear endpoint of the insole at the heel area and the lowest point of the insole at the metatarsophalangeal area, respectively, to the ground. Measure the effective heel height using an appropriate gauge with an accuracy of at least 1 mm.

6.4 Small accessories of infants' footwear

6.4.1 Tension test for non-removable small accessories

The test is carried out according to GB 6675.2—2014, 5.24.6.1, general procedure.

6.4.2 Small accessories test

The test is carried out according to GB 6675.2—2014, 5.2, to determine whether any small accessory fits entirely within the cylinder.

6.5 Chromium (VI)

Different samples are tested separately according to GB/T 22807 or GB/T 38402. In case of a dispute, the test result of GB/T 38402 is used in preference.

6.6 Dyes with decomposable carcinogenic aromatic amines

6.6.1 Different samples are tested separately. When linings and uppers cannot be separated, they are tested together according to the test method for the lining material. For the sample under testing that has other materials laminated on the backside, the laminated materials shall be completely removed before testing. This shall be stated in the test report in case it is really unable to be removed.

6.6.2 Textiles, artificial leather and synthetic leather are tested according to GB/T 17592. Genuine leather and fur are tested according to GB/T 19942.

6.7 Formaldehyde

6.7.1 Specimen preparation is the same as 6.6.1.

6.7.2 Textiles, artificial leather and synthetic leather are tested according to GB/T 2912.1. Genuine leather and fur are tested according to GB/T 19941.1 or GB/T 19941.2, and in case of a dispute, the test result of GB/T 19941.1 is used in preference.

6.8 Total heavy metal content

Different samples are tested separately according to QB/T 4340.

6.9 Dimethyl fumarate

Different samples are tested separately according to GB/T 26713.

6.10 Chlorinated phenols

6.10.1 Specimen preparation is the same as 6.6.1.

6.10.2 Textiles, artificial leather and synthetic leather are tested according to GB/T 18414.1. Genuine leather and fur are tested according to GB/T 22808.

6.11 N-nitrosamines

Different samples are tested separately according to ISO 19577:2019.

6.12 Phthalates

Different samples are tested separately. For the sample under testing that has other materials laminated on the backside, the laminated materials shall be completely removed before testing. This shall be stated in the test report in case it is really unable to be removed. The test is carried out according to GB/T 32440.1.

6.13 Short-chain chlorinated paraffins

6.13.1 Specimen preparation is the same as 6.6.1.

6.13.2 Textiles are tested according to GB/T 40263. Genuine leather, fur, artificial leather and synthetic leather are tested according to GB/T 38405. Rubber, plastic and other synthetic materials are tested according to SN/T 3814.

7 Judgment

Judgment is made in accordance with Clause 5. If all the test results meet the requirements of Clause 5, the sample is judged as qualified, otherwise it is unqualified.

8 Implementation of the standard

For products manufactured or imported before the implementation date of this document, it shall be put into effect in the 13th month following the implementation date of this document.

Annex A

(normative)

List of carcinogenic aromatic amines

Table A.1 provides the list of carcinogenic aromatic amines that can be released from dyes by reductive cleavage.

Table A.1 List of carcinogenic aromatic amines

No.	Chinese name	English name	CAS No.
1	4-氨基联苯	4-aminobiphenyl	92-67-1
2	联苯胺	benzidine	92-87-5
3	4-氯-邻甲基苯胺	4-chloro- <i>o</i> -toluidine	95-69-2
4	2-萘胺	2-naphthylamine	91-59-8
5	邻氨基偶氮甲苯	<i>o</i> -aminoazotoluene	97-56-3
6	2-氨基-4-硝基甲苯	2-amino-4-nitrotoluene	99-55-8
7	对氯苯胺	<i>p</i> -chloroaniline	106-47-8
8	2,4-二氨基苯甲醚	2,4-diaminoanisole	615-05-4
9	4,4'-二氨基二苯甲烷	4,4'-diaminobiphenylmethane	101-77-9
10	3,3'-二氯联苯胺	3,3'-dichlorobenzidine	91-94-1
11	3,3'-二甲氧基联苯胺	3,3'-dimethoxybenzidine	119-90-4
12	3,3'-二甲基联苯胺	3,3'-dimethylbenzidine	119-93-7
13	3,3'-二甲基-4,4'-二氨基二苯甲烷	3,3'-dimethyl-4,4'-diaminobiphenylmethane	838-88-0
14	2-甲氧基-5-甲基苯胺	<i>p</i> -cresidine	120-71-8
15	4,4'-亚甲基-二-(2-氯苯胺)	4,4'-methylene-bis-(2-chloroaniline)	101-14-4
16	4,4'-二氨基二苯醚	4,4'-oxydianiline	101-80-4
17	4,4'-二氨基二苯硫醚	4,4'-thiodianiline	139-65-1
18	邻甲苯胺	<i>o</i> -toluidine	95-53-4
19	2,4-二氨基甲苯	2,4-toluylenediamine	95-80-7
20	2,4,5-三甲基苯胺	2,4,5-trimethylaniline	137-17-7
21	邻甲氧基苯胺	<i>o</i> -anisidine	90-04-0
22	2,4-二甲基苯胺	2,4-xylidine	95-68-1
23	2,6-二甲基苯胺	2,6-xylidine	87-62-7
24	4-氨基偶氮苯	4-aminoazobenzene	60-09-3

Annex B

(normative)

List of prohibited N-nitrosamines in rubber components

Table B.1 provides the list of prohibited N-nitrosamines in rubber components.

Table B.1 List of prohibited N-nitrosamines in rubber components

No.	Chinese name	English name	CAS No.
1	N-亚硝基二甲胺	N-nitroso dimethylamine (NDMA)	62-75-9
2	N-亚硝基二乙胺	N-nitroso diethylamine (NDEA)	55-18-5
3	N-亚硝基二丙胺	N-nitroso dipropylamine (NDPA)	621-64-7
4	N-亚硝基二丁胺	N-nitroso dibutylamine (NDBA)	924-16-3
5	N-亚硝基哌啶	N-nitroso piperidine (NPIP)	100-75-4
6	N-亚硝基吡咯烷	N-nitroso pyrrolidine (NPYR)	930-55-2
7	N-亚硝基吗啉	N-nitroso morpholine (NMOR)	59-89-2
8	N-亚硝基-N-甲基苯胺	N-nitroso-N-methylaniline (NMPHA)	614-00-6
9	N-亚硝基-N-乙基苯胺	N-nitroso-N-ethylaniline (NEPHA)	612-64-6

Annex C

(normative)

List of restricted phthalate plasticizers

Table C.1 provides the list of restricted phthalate plasticizers in materials for infants’ and children’ s footwear.

Table C.1 List of restricted phthalate plasticizers

No.	Chinese name	English name	CAS No.
1	邻苯二甲酸二丁酯	dibutyl phthalate (DBP)	84-74-2
2	邻苯二甲酸丁基苄基酯	benzylbutyl phthalate (BBP)	85-68-7
3	邻苯二甲酸二（2-乙基）己酯	di(2-ethylhexyl) phthalate (DEHP)	117-81-7
4	邻苯二甲酸二异壬酯	diisononyl phthalate (DINP)	28553-12-0
5	邻苯二甲酸二辛酯	di-n-octyl phthalate (DNOP)	117-84-0
6	邻苯二甲酸二异癸酯	diisodecyl phthalate (DIDP)	26761-40-0
7	邻苯二甲酸二异丁酯	diisobutyl phthalate (DIBP)	84-69-5