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Replaces GB 18401---2003

National General Safety Technical Code for Textile Products

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GB 18401---XXXX

Preface

All contents of this Standard are compulsory.

This Standard replaces GB 18401-2003 *National General Safety Technical Code for Textile Products*. The main technical differences between this Standard and GB 18401-2003 are listed below:

- ‘Home use’ has been added to the scope of application, and ‘Use’ and ‘Except when otherwise agreed by both demand and supply parties’ have been deleted;
- 2 quoted standards have been added to chapter 2; GB/T 17592.1 has been replaced with GB 17592;
- Infant age has been altered from 24 months to 36 months;
- Product 4.1 categorisation from A, B and C coding has been changed to a verbal description;
- The pH value in category B of Table 1 has been changed from 4.0~7.5 to 4.0~8.5;
- Products in Footnotes a and b of Table 1 have been confirmed to be ‘non-end products’;
- Footnote b of Table 1 has been updated to include ‘not required for original coloured and bleached products; not required for traditional handcrafted products such as tie dyed, wax printed products; only baby/children products are to be tested for colourfastness to saliva’;
- Footnote c of Table 1 has been updated, with the limit value for decomposable carcinogenic arylamine set to • 20mg/kg;
- Note 5.2 has been updated to include ‘regulations governing exemption from testing for colourfastness to perspiration for hanging products such as curtains’;
- Note 5.3 has been updated to include ‘product categorisation by piece’, and the 80 cm measurement in the Note has been changed to 100 cm;
- The examination limit set in 6.8 has been deleted;
- Footnote 7.4 has been added to the main texts;
- A.11, A.12 and A.13 have been added to Appendix A, and A.9 has been changed to ‘rag crafted products’;
- Some samples in Appendix B have been adjusted;
- ‘4-Ammoazobenzene’ has been added to the list in appendix C;

- Appendix D has been added.

This Standard only specifies requirements for the general safety of textile products; other requirements should adhere to the relevant standards.

Appendix C of this Standard is regulatory, while Appendices A, B and D are for reference.

This Standard was proposed by the China National Textile and Apparel Council.

This Standard is specifically managed by the National Technical Committee on Textiles of the Standardisation Administration of China.

This Standard was drafted by the Textile Industry Standardisation Research Institute and the China Textile Quality Supervision and Testing Centre.

This Standard was drafted by: Zheng Yuying, Xu Lu and Wang Baojun.

Historical publication of this standard: GB 18401-2001, GB 18401-2003.

National General Safety Technical Code for Textile Products

1. Scope

This Standard defines the general safety technical requirements for textile products, test methods, testing, implementation and supervision principles. Other requirements for textile products should adhere to the relevant standards.

This Standard is applicable to the manufacture and sale of garment, decorations and household textile products. Products for export should adhere to the clauses in the respective agreements.

Note: Products listed in Appendix A do not fall under the categories of this Standard, unless otherwise indicated by the government.

2. Cited normative documents

The clauses listed below have become clauses of this Standard due to their being quoted in this Standard. The amended versions (not including contents that have been corrected) or modified version of all quoted documents which are dated shall not apply to this Standard. However, it is recommended that both parties to any agreement reached based on this Standard investigate the feasibility of using the latest version of these documents. The latest versions of any documents with no specified dates shall apply to this Standard.

- GB/T 2912.1 Textile formaldehyde determination. Part I: free formaldehyde and hydrolyzed formaldehyde (hydro-extraction method) (GB/T 2912.1-XXXX, ISO 14184.1:1998, MOD)
- GB/T 3920 Textile colourfastness test. Colour rub-fastness test. (GB/T 3920-2008, ISO 105-X12:2001, MOD)
- GB/T 3922 Textile colourfastness to perspiration test method (GB/T 3922-1995, eqv ISO 105-E04:1994)
- GB/T 5713 Textile colourfastness test. Colourfastness to water resistance test. (GB/T 5713-1997, eqv ISO 105-E01:1994)
- GB/T 7573 Textile determination of pH value of hydro-extraction liquid. (GB/T 7573-XXXX, ISO 3071:2005, MOD)
- GB/T 17592 Textile determination of forbidden azo dyes.
- GB/T 18886 Textile colourfastness test. Colourfastness to saliva.
- GB/T 23344 Textile determination of 4-Aminoazobenzene

3. Terminology and definitions

The following terminology and definitions are applicable to this Standard.

3.1

Textile products

Products whose main materials comprise natural and chemical fibres, processed using procedures including reeling, knitting, and dyeing, combined with stitching and compounding processes. Examples include yarn and textile and finished products thereof.

3.2

General safety specification

Fundamental specifications required to ensure fabric products are not harmful to human health.

3.3

Textile products for infants

Textile products that are worn or used by infants at/below 36 months of age.

3.4

Textile products with direct contact to skin

Textile products with large areas in direct contact with human skin when worn or used.

3.5

Textile products without direct contact to skin

Textile products with little or no area in direct contact with human skin when worn or used.

4. Product categorisation

4.1

Products are sorted by end use into three categories:

- Textile products for infants
- Textile products with direct contact to skin
- Textile products without direct contact to skin

4.2

Products that can only be used after further processing by the customer (such as: cover materials, yarn) should be categorised in accordance with their end use.

5. Requirements

5.1

General technical safety specifications for textile products are sorted into three categories: A, B and C categories - see Table 1.

Table 1

Item		A	B	C
formaldehyde % (mg/kg) •		20	75	300
pH value ^a		4.0~7.5	4.0~8.5	4.0~9.0
Dyeing colourfastness ^b (level), •	water-resistant (colour deterioration, staining)	3-4	3	3
	colourfastness to acidic perspiration (colour deterioration,	3-4	3	3

	staining)			
	colourfastness to alkali perspiration (colour deterioration, staining)	3-4	3	3
	colourfastness to Coulomb friction	4	3	3
	colourfastness to saliva	4	-	-
Peculiar odour		n/l		
Decomposable carcinogenic arylamine dye ^c (mg/kg)		Forbidden		
<p>a The pH value can be adjusted to 4.0~10.5 for non-end products that must undergo wet processing in further processing procedures.</p> <p>b Not applicable to: non-end products that must undergo washing and fading processes, products that are of original colour or bleached products; traditional handcrafted products such as tie dyed or wax printed products. Only baby/children products need to be tested for colourfastness to saliva.</p> <p>c Please see appendix C for list of decomposable carcinogenic arylamine dyes, limit value: • 20 mg/kg.</p>				

5.2

Textile products for infants should comply with requirements in category A; products in direct contact with skin should comply with requirements in category B; products not in direct contact with skin should at least comply with requirements in category C; of these, testing for colourfastness to perspiration of hanging and decorative products such as curtains is not required.

5.3

Textile products for infants should be labelled 'products for infants'. Other products must be labelled with explanations as to which general safety technical specifications (such as category A, B or C) they comply with. Products should be labelled to a single category in accordance to their component parts.

Note: Products normally suitable for children below a height of 100 cm can be deemed as textile products for infants.

6. Test method

6.1 Determination of formaldehyde should be performed in conformance with GB/T 2912.1.

6.2 Determination of pH value should be performed in conformance with GB/T 7573.

6.3 Determination of water resistance should be performed in conformance with GB/T 5713.

6.4 Determination of colourfastness to acid/alkali perspiration should be performed in conformance with GB/T 3922.

6.5 Determination of colourfastness to coulomb friction should be performed in conformance with GB/T 3920.

6.6 Determination of colourfastness to saliva should be performed in conformance with GB/T

18886.

6.7 Peculiar odour.

Peculiar odour is determined through the olfaction method, to be performed by professionals with proper training and assessment.

This determination process should be performed immediately after opening the sample. The process should be conducted in an environment that is free of peculiar odours. The test performer should wash their hands and wear gloves, then hold the sample close to their nostrils, and carefully smell the smell borne by the sample. In the event that one or several smells including mould, high-boiling range fossil fuels (such as petrol, kerosene), fishy smells or aromatic hydrocarbons are noticed, the sample shall be determined to 'have a peculiar odour; the type of smell should also be recorded. Otherwise, the sample shall be determined to 'have no peculiar odour'.

The determination process shall be performed by two persons, and the result confirmed by the consistency of the results from the two testers. If the results are inconsistent, one further tester shall perform the determination process, and the final result shall be confirmed by the two consistent results out of the three persons.

6.8 Determination of decomposable carcinogenic arylamine dye should be performed in conformance with GB/T 17592 and GB/T 23344.

Note: in general, GB/T 17592 is first applied; when aniline and/or 1,4-phenylenediamines are found, GB/T 23344 is then applied.

7. Determination principles

7.1 Representative samples should be randomly selected from every batch of products by category and colour, and one sample is then selected for each different colour within every category.

7.2 Individual goods should be sampled at a minimum distance of 2 m away from one end, and the sample should be a whole piece with a length no less than 0.5 m; sampling of garments or other products should satisfy the requirements of the determination process.

7.3 Following sample selection, the goods should be sealed such that they are airtight. No action should be taken. The relevant sampling technique can be found in the sampling manual in Appendix D.

7.4 An assessment should be performed by product category in accordance with Table 1. If the results of the product determination all satisfy the corresponding requirements in Table 1 (all components of products with two or more components should satisfy the corresponding requirements in Table 1), these samples will then conform to the general safety technical specifications; otherwise they will fail to do so. No determination process is required for small components with a total weight of less than 1% of the whole product that come into contact with skin either directly or non-directly.

7.5 If the selected samples are all conformant, the batch of products shall be determined to be conformant with the general safety technical specifications. In the event of any non-conformant samples, the product category or colour represented by the sample shall be determined to be non-conformant.

8. Implementation and supervision

8.1 Entities and individuals engaged in textile product research, production and trading shall strictly implement this Standard in line with the *Standardisation Law of the People's Republic of*

China and the *Regulations for the Implementation of the Standardisation Law of the People's Republic of China*. The production, sale or importation of products that do not comply with this Standard are forbidden.

8.2 In line with the *Standardisation Law of the People's Republic of China* and the *Regulations for the Implementation of the Standardisation Law of the People's Republic of China*, any entity or individual is entitled to file a report, appeal or complaint against actions in breach of this Standard.

8.3 The government shall mainly use the spot-check supervision and examination method for textile products in line with the *Product Quality Law of the People's Republic of China*.

8.4 Procedures such as product authentication related to the general safety of textile products shall adhere to the relevant national law and regulations.

9. Legal responsibility

Relevant laws and regulations such as the *Standardisation Law of the People's Republic of China* and the *Product Quality Law of the People's Republic of China* shall prevail and provide the means for punishment for actions in breach of this Standard.

Appendix A
(For reference)

List of textile products not included in the categories of this Standard

- A.1 Textile products for construction use such as geotextiles, water proof linoleum ground cloth, etc.
- A.2 Industrial textile products such as papermaking blanketry, awning cloth, filtrate cloth, and insulated textiles, etc.
- A.3 Agricultural textile products such as soil-less cultivation ground cloth, etc.
- A.4 Special protection products such as gas proof, radiation proof, high temperature endurance products, etc.
- A.5 String and net products such as fishing net, cables, and climbing cables, etc.
- A.6 Packaging products such as sacking and parcel packaging, etc.
- A.7 Medical products such as medicated gauze and bandages, etc.
- A.8 Cloth handcrafted or soft toys
- A.9 Cloth handcrafted products
- A.10 Outdoor products such as cloth for advertising light boxes, awning cloths and tents, etc.
- A.11 Sanitary products that are disposable in nature
- A.12 Umbrellas, shoes, suitcases or backpacks, etc.
- A.13 Carpets

Appendix B
(For reference)

Sample textile product categorisations

Table B.1 shows examples of product categorisation used in the statements. Products not listed in table B.1 should be categorised in accordance with the product's end use.

Table B.1

Type	Typical examples
Textile products for infants	Nappies, underwear, bibs, pyjamas, gloves, socks, overclothes, hats, bedding.
Textile products in direct contact with skin	Underwear, shirts, skirts, trousers, socks, bed sheets, duvet covers, towels, swimsuits, hats.
Textile products not in direct contact with skin	Overclothes, skirts, trousers, curtains, bed linen, wall cloth.

Appendix C
(Compulsory)

List of decomposable carcinogenic arylamines

Table C.1

No.	English name	Chinese name	Chemical extracts No.
1	4-Aminobiphenyl	4•••••	92-67-1
2	Benzidine	•••	92-87-5
3	4-Chloro-o-toluidine	4•-•••••	95-69-2
4	2-Naphthylamine	2-••	91-59-8
5	o-Aminoazotoluene		97-56-3
6	5-Nitro-o-toluidine	5-••-•••••	99-55-8
7	p-Chloroaniline	•••••	106-47-8
8	2,4-Diaminoanisole	2,4-•••••••	615-05-4
9	4,4'-Diaminobiphenylmethane	4,4'-•••••••••	101-77-9
10	3,3'-Dichlorobenzidine	3,3'-•••••••	91-94-1
11	3,3'-Dimethoxybenzidine	3,3'-	119-90-4
12	3,3'-Dimethylbenzidine	3,3'-•••••••	119-93-7
13	3,3'-Dimethyl-4,4'-diaminobiphenylmethane	3,3'-•••••-4,4'-••••• •••••	838-88-0
14	p-Cresidine	2-•••••-5-•••••	120-71-8
15	4,4'-Methylene-bis-(2-chloroaniline)	4,4'-•••••-•••••-(2-••• •••)	101-14-4
16	4,4'-Oxydianiline	4,4'-•••••••••	101-80-4

17	4,4'-Thiodianiline	4,4'-••••••••	139-65-1
18	o-Toluidine	••••	95-53-4
19	2,4-Toluyldiamine	2,4-•••••	95-80-7
20	2,4,5-Trimethylaniline	2,4,5-•••••	137-17-7
21	o-Anisidine	•••••••	90-04-0
22	4-Aminoazobenzene	4-•••••	60-09-3
23	2,4-Xylidine	2,4-•••••	95-68-1
24	2,6-Xylidine	2,6-•••••	87-62-7

Appendix D
(For reference)
Sampling manual

D.1 Sampling for colourfastness testing

Follow the corresponding testing method. For printing and zephyr products with large repetitive or random cycle patterns, use the respective colour spectrum for determination, and use the result of the lowest level as test results.

D.2 Sampling for formaldehyde, pH value and decomposable carcinogenic arylamine dyes

D2.1 Products with coloured patterns

- For printed products with ordered patterns, take a sample according to the cycle pattern, cut into small pieces then mix as a single sample;
- For printed products with large cycles of pattern, take a sample according to the area and pattern proportion, cut into small pieces then mix as a single sample;
- For products with independent patterns, when the area of the pattern satisfies sampling requirements, take an independent sample; if the pattern area is too small to take a sample, a small pattern should be used as a sample; it is not recommended that samples from multiple pieces be taken and mixed as a single sample;
- Only determine decomposable arylamine on areas with small patterns.

D2.2 Products with multiple and composite layers

- For products that can be manually divided, manually divide the layers and determine these respectively;
- For products that cannot be manually divided, determine on an overall basis.

References

- [1.] Standardisation Law of the People's Republic of China
 - [2.] Regulations for the Implementation of the Standardisation Law of the People's Republic of China
 - [3.] Product Quality Law of the People's Republic of China
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