

# SAFEGUARDS

SGS CONSUMER TESTING SERVICES

SOFTLINES

NO. 116/11 JUN 2011

## GB 25038-2010 RUBBER SHOES; HEALTH AND SAFETY SPECIFICATIONS

As of 1 July 2011, all manufacturers and importers of rubber footwear into China must comply with the mandatory standard covering the health and safety requirements and therein specifications for rubber shoes sold in China.

### SCOPE OF GB 25038-2010

This standard applies to shoes which contain rubber that has undergone heat vulcanization. The upper materials of the shoes may be made from textile materials, synthetic leather or artificial leather. The standard provides definitions, product categories, safety requirements, test methods and a sampling plan for testing.

Products covered by this standard are divided into two categories:

- Type A: Infants' rubber shoes (age  $\leq$  36 months with shoe size not  $>$  170)
- Type B: Rubber shoes other than infants' rubber shoes.



Article 5 of the standard specifies the mandatory safety requirements (excluding pH value which is recommended limit only) for rubber shoes. The safety requirements are shown in the table 1.

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TABLE 1

PARTS	ITEMS	UNIT	RESTRICTION LIMIT		
			TYPE A	TYPE B	
Upper, lining, and innersole  (textile material, synthetic leather and artificial leather)	pH value (recommended limit only)	-	4.0-9.0		
	Free and hydrolyzed formaldehyde	mg/kg	≤ 75	≤ 150	
	Extractable heavy metal	Lead (Pb)	mg/kg	≤ 1.0	
		Cadmium (Cd)	mg/kg	≤ 0.1	
		Arsenic (As)	mg/kg	≤ 1.0	
	Azo dyestuff- aromatic amines <sup>a,b</sup>	-	Forbidden		
	Chlorinated Phenols	Pentachlorophenol (PCP) <sup>b</sup>	mg/kg	Not detected	
2,3,5,6-Tetrachlorophenol (TeCP) <sup>b</sup>		mg/kg	Not detected		
Rubber part	<i>N</i> -Nitrosamines <sup>b,c</sup>	mg/kg	Not detected		
Lining and innersole - Colour fastness to rubbing <sup>d</sup> (staining)		Grade	≥ 3	≥ 2-3	
Remarks:	<sup>a</sup> Banned aromatic amines from Azo Dyestuffs are listed in Table A <sup>b</sup> Banned aromatic amines limit 30 mg/kg, pentachlorophenol (PCP) and 2,3,5,6-tetrachlorophenol (TeCP) limit: 0.5 mg/kg, <i>N</i> -nitrosamines limit: 0.5 mg/kg <sup>c</sup> Banned <i>N</i> -nitrosamines in Rubber in Table B <sup>d</sup> Using QB/T 2882-2007 method A, assessed by grey scale for staining after using artificial sweat solution and 50 rubbing cycles				



**TABLE A: 23 BANNED AROMATIC AMINES FROM AZO DYESTUFFS**

NAME	CAS NO.
4-aminobiphenyl	92-67-1
benzidine	92-87-5
4-chloro- <i>o</i> -toluidine	95-69-2
2-naphthylamine	91-59-8
<i>o</i> -aminoazotoluene	97-56-3
2-amino-4-nitrotoluene	99-55-8
<i>p</i> -chloroaniline	106-47-8
2,4-diaminoanisole	615-05-4
4,4'-diaminodiphenylmethane	101-77-9
3,3'-dichlorobenzidine	91-94-1
3,3'-dimethoxybenzidine	119-90-4
3,3'-dimethylbenzidine	119-93-7
3,3'-dimethyl-4,4'-diaminodiphenylmethane	838-88-0
<i>p</i> -cresidine	120-71-8
4,4'-methylene-bis-(2-chloroaniline)	101-14-4
4,4'-oxydianiline	101-80-4
4,4'-thiodianiline	139-65-1
<i>o</i> -toluidine	95-53-4
2,4-diaminotoluene	95-80-7
2,4,5-trimethylaniline	137-17-7
<i>o</i> -anisidine	90-04-0
2,4-xylylidine	95-68-1
2,6-xylylidine	87-62-7

**TABLE B: BANNED N-NITROSAMINES IN RUBBER**

NO	NAME	CAS NO
1	N-nitrosodimethylamine	62-75-9
2	N-nitrosodiethylamine	55-18-5
3	N-nitrosodipropylamine	621-64-7
4	N-nitrosodibutylamine	924-16-3
5	N-nitrosopiperidine	100-75-4
6	N-nitrosopyrrolidine	930-55-2
7	N-nitrosomorpholine	59-89-2
8	N-nitroso-N-methylaniline	614-00-6
9	N-nitroso-N-ethylaniline	612-64-6

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