

OTB

Restricted Substances List (RSL)  
& Product Safety Requirements

Rev. 3.0 November 2023

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# INTRODUCTION TO OTB RSL

## INTRODUCTION TO THE OTB RESTRICTED SUBSTANCES LIST (RSL)

OTB Group is committed to bringing about meaningful change in the fashion supply chain by leveraging its grounding pillars, including responsible management of chemical substances in manufacturing processes and in finished products, the durability and traceability of both, as well as more generally the circular economy.

The OTB Group actively defends the planet from climate change, nurtures biodiversity and is developing systems to manage atmospheric emissions from wet processes and chemical use, to reduce external impacts, safeguard people and the ecosystem.

OTB Group, an international fashion organization with a broad portfolio of proprietary and licensed brands, including **Diesel** and manufacturing entities **Staff International** and **Brave Kid**, demands total transparency from all business partners. The RSL sets out to reduce and/or prohibit the use of harmful chemicals in finished products and production processes to protect clients, human resources and the environment.

This OTB PRSL applies to fashion products (apparel, footwear, accessories, leather goods, fashion jewellery, eyewear and packaging).

It does not apply to products subject to specific additional regulatory compliance requirements, such as cosmetics, childcare articles, toys, electric and electronic articles and/or food contact articles and materials.

## MANUFACTURING PROCESSES

With the intention of eliminate hazardous chemicals from production processes, OTB joined the ZDHC Roadmap to Zero Program (<https://www.roadmaptozero.com/>) in 2021.

As a contributor of ZDHC, the Group has committed to develop a responsible water and chemical management strategy and to eliminate the use of hazardous chemicals from production processes by 2030. The OTB Group is therefore asking all suppliers to ensure the compliance of chemicals used in OTB productions with respect **to ZDHC's MRSL** (<https://mrsl-30.roadmaptozero.com/>) and implement the Supplier to Zero pathway with the intention of enabling suppliers to assess their knowledge and implementation status against industry best practices.

## PRODUCTS

The **OTB Group Product Restricted Substances List (PRSL)** is periodically updated and sets forth a list of chemical substances that are restricted or banned to ensure full regulatory compliance of raw materials, intermediate goods and finished goods.

The restrictions are the result of careful analysis of mandatory regulations in global markets to relating to the health of consumers, the safety of products and the protection of the environment, as well as the voluntary decision to reduce the use of certain substances under observation and not yet subject to regulation.

Following the precautionary principle, where binding restrictions have not been introduced in countries of manufacture and sale, the OTB Group has opted to impose stricter limits in line with leading sources of chemical safety (e.g. Oeko-Tex standards) as well as consolidated global industry standards.

One of the principal regulations cited in this document is Regulation (EU) 1907/2006 REACH as amended. REACH contains the Candidate List which sets forth substances of very high concern (SVHC). Suppliers must immediately notify OTB Group of any SVHCs present in articles above 0.1% by weight (1000 mg/kg). Since OTB Group does not accept SVHCs in articles above this limit, suppliers are required to find alternative substances that are REACH compliant. OTB Group requires suppliers to keep up to date with the Candidate List by visiting ECHA's website <https://echa.europa.eu/home> for REACH requirements and <https://echa.europa.eu/candidate-list-table> for SVHC list table.

OTB Group verifies compliance with the PRSL on an ongoing basis, performing chemical testing at ISO 17025 accredited laboratories using the test methods indicated for each group of substances. This is to exclude every possible risk, guarantee that chosen parameters are respected and ensure that only safe products are placed on the market.

For any doubts or questions relating to this document, please contact our Sustainability Team.

## SECTION 1: OTB GROUP PRSL

### 1.1 MAJOR CHEMICAL UPDATES COMPARED TO RSL OTB VERSION 2

SUBSTANCE UPDATED	RAW MATERIALS / PRODUCTS INVOLVED	UPDATES
Alkylphenols (AP)	Leather and Fur, Paper and similar	Limits updated
Bisphenols	Textile, Plastic/Rubber	Limits updated
Extractable Heavy Metals - Arsenic	Plastic/Rubber, Wood/Corozo/Bamboo and similar materials	Limits updated
Extractable Heavy Metals - Chromium VI (CrVI)	Leather and Fur, Plastic/Rubber	Limits updated
Extractable Heavy Metals – Lead	Leather and Fur, Plastic/Rubber	Limits updated
Extractable Heavy Metals – Lead compounds	Leather and Fur, Plastic/Rubber	New substance
Total Heavy Metals – Cadmium	Metal parts	Limits updated
Fluorinated Compounds	Textiles, Leather and Fur	Limits, substances tab. and test method updated
Organotin Compounds	Textiles, Leather and Fur	Limits updated
Orthophenylphenol (OPP)	Leather and fur	Limits updated
Packaging	All materials	New section added
Pentachlorophenol (PCP) and Tetrachlorophenols (TeCP)	Textiles, Leather and Fur, Plastic/Rubber, Wood/Corozo/Bamboo and similar materials	Test method updated
Polycyclic Aromatic Hydrocarbon (PAH)	Textiles, Leather and fur, Plastic/Rubber, Wood/Corozo/Bamboo and similar materials, Adhesives and glues	Limits and test methods updated
pH	Leather and Fur	Limits updated
PVC	Plastic/Rubber	Parameter added
Medium and Short Chain Chlorinated Paraffins (MCCP C14-C17 and SCCP C10-C13)	Textile	Test method updated
Solvents	Textile	Test method updated

## 1.2 TEXTILES

PARAMETER		UNIT	LIMIT VALUE KIDS (0-16 YEARS)	LIMIT VALUE ADULTS (>16 YEARS)	DETECTION LIMIT	METHODS
ALKYLPHENOLS (AP) (Tab. 1)		mg/kg	10 (sum)		10	ISO 21084
ALKYLPHENOLS ETHOXYLATES (APEO) (Tab. 2)		mg/kg	100 (sum)	100 (sum) – 250 (sum) for 100% recycled fibers	10	EN ISO 18254-1 CNS 15579
ANILINE		mg/kg	20		5	EN ISO 14362-1 and 3
ASBESTOS (Tab. 3)		mg/kg	n.d.*		N/A	Microscopic examination SEM
BORIC ACID		mg/kg	1000		5	Microwave digestion and analysis by ICP-MS or GC - MS
BISPHENOLS (only for elastane and polyester fibers) (Tab.19)		mg/kg	1		1	Solvent extraction, LC-MS / GC-MS analysis
CHLOROBENZENES AND CHLOROTOLUENES (Tab. 5)		mg/kg	1 for each substance		0,2 (each)	EN 17137
			Pentachlorobenzene and Hexachlorobenzene: n.d.*			
COLORANTS	CARCINOGENIC (Tab. 6A)	mg/kg	n.d.*		10	DIN 54231 ISO 16373
	DISPERSE ALLERGENIC (Tab. 6B)		n.d.*		5	DIN 54231 KS K 0763 <sup>(1)</sup> ISO 16373
	CLEAVABLE ARYLAMINES / ARYLAMINES (AZO) (Tab. 6C)		n.d.*		5	EN ISO 14362-1 e 3 GB/T 17592.1 GB/T 33392 GB/T 23344 KS K ISO 0147 <sup>(1)</sup> KS K 0739 <sup>(1)</sup> KSK 0734 <sup>(1)</sup>
	OTHERS (Tab. 6D)		n.d.*		10	DIN 54231
DIMETHYL FUMARATE (DMFu)		mg/kg	0,1		0,05	EN 17130 CEN ISO/TS 16186 GC-ECD GB/T 26713
FLAME RETARDANTS (Tab. 15)		mg/kg	n.d.*		5	EN ISO 17881-1/-2 GB/T 24279 Solvent extraction and analysis by GC-MS or LC -MS or GC-ECD

PARAMETER	UNIT	LIMIT VALUE KIDS (0-16 YEARS)	LIMIT VALUE ADULTS (>16 YEARS)	DETECTION LIMIT	METHODS
ALL PFAS AS MEASURED BY TOTAL ORGANIC FLUORINE	mg/kg	100 (50 by 2027)		5	EN 14582 or ASTM D7359
PERFLUOROCTANE SULFONATE (PFOS) AND RELATED SUBSTANCES (Tab. 7A)	µg/m <sup>2</sup>	1		1	EN ISO 23702-1 or EN 17681-1 & 17681-2
PERFLUOROCTANOIC ACID (PFOA) AND ITS SALTS (Tab. 7B)	µg/kg	25		1	
PFOA-RELATED SUBSTANCES (Tab. 7C)	µg/kg	1000		1	
PERFLUOROHEXANE-1-SULPHONIC ACID (PFHXS) AND ITS SALTS (Tab. 7D)	µg/kg	25		1	
PFHXS-RELATED SUBSTANCES (Tab. 7D)	µg/kg	1000		1	
C9-C14 PERFLUOROCARBOXYLIC ACIDS (PFCAS) AND THEIR SALTS (Tab. 7E)	µg/kg	25		1	
C9-C14 PFCA-RELATED SUBSTANCES (Tab. 7F)	µg/kg	260		1	
FORMALDEHYDE (FREE AND EXTRACTABLE)	mg/kg	16: 0-3 years 20: 4-14 years	20	16	EN ISO 14184-1 GB 18401 GB/T 2912.1 Japan Law: JIS L1041 KS K 14184-1 <sup>(1)</sup> KS K 0611
ISOCYANATES (Tab. 11)	mg/kg	n.d*		2	RIF. EN 13130-8 LC MS-MS
MEDIUM CHAIN CHLORINATED PARAFFINS MCCP C14-C17	mg/kg	100		15	ISO 22818 (SCCP+MCCP)
ORTHOPHENYLPHENOL (OPP)	mg/kg	0,5	1	0,5	§ 64 LFGB BVL B 82.02-08 EN 17134
ORGANOTIN COMPOUNDS (Tab. 8)	mg/kg	TBT/TPHT/TBTO: n.d.* (each substance) Others: 1 (each substance)		0,1 Others: 0,2	CEN ISO/TS 16179 KS K 0737(1) ISO 22744-1 NIEA T 504.30B
PENTACHLOROPHENOL (PCP) TETRACHLOROPHENOLS (TeCP) TRICHLOROPHENOLS (TriCP) DICHLOROPHENOLS (DCP) MONOCHLOROPHENOLS(MCP) (Tab. 13)	mg/kg	PCP: n.d.* TeCP: n.d.* TriCP: n.d.* DCP: 0,5 (sum) MCP: 0,5 (sum)	PCP: n.d.* TeCP: n.d.* TriCP: n.d.* DCP: 3 mg/kg (sum) MCP: 3 mg/kg (sum)	0,05 (each)	§ 64 LFGB BVL B 82.02-08 UNI 11057 PCP/TeCP also GB/T 18414.1-2 (children's rubber shoes: upper, lining, socks) KS K ISO 0733 <sup>(1)</sup> (PCP only) DIN 50009

PARAMETER		UNIT	LIMIT VALUE KIDS (0-16 YEARS)	LIMIT VALUE ADULTS (>16 YEARS)	DETECTION LIMIT	METHODS
PESTICIDES (Tab. 4A)		mg/kg	n.d.*		0,5	Gas chromatography - electron capture detector (GC-ECD) Solvent extraction and analysis by GC-MS or LC-MS
pH		-	4,0 – 7,5		-	EN ISO 3071 GB 18401 GB/T 7573 KS K ISO 3071 <sup>(2)</sup>
PHENYLMERCURY COMPOUNDS (Tab. 12)		mg/kg	1		1	ISO 17072-2 (screening) EN 16711
PHTHALATES (Tab. 9) (only for coated / printed / painted / laminated fabrics)		mg/kg	DEHP, DBP, BBP, DINP, DIBP: 50 (each) DNOP: 100 Others: 500 (sum)		50 (each)	EN ISO 14389 CPSC-CH-C1001-09.4 GB/T 20388 For footwear also ISO/TS 16181
POLYCYCLIC AROMATIC HYDROCARBON (PAH) (Tab. 10)		mg/kg	GROUP A: 0,5 (each)	GROUP A: 1 (each)	0,5	AfPS GS 2019:01 PAK EN 17132
			GROUP A + GROUP B: 10 (sum)			
QUINOLINE		mg/kg	50		5	MeOH extraction + GC-MS or THF / DCM + HPLC-MS
POLYCHLOROBIPHENYLS (PCB) POLYCHLORONAPHTHALENES (PCN) (Tab. 14)		mg/kg	PCB: 0,1		0,1	EPA 3540C + EPA 8082A
			PCN: 1		1	EPA 3550C + EPA 8270E
SHORT CHAIN CHLORINATED PARAFFINS SCCP C10-C13		mg/kg	n.d.*		50	ISO 22818 (SCCP+MCCP)
SOLVENTS (Tab. 16)	CHLORINATED SOLVENTS	mg/kg	α-chlorotoluene: 1 GROUP A: 500 (sum) GROUP B: 50 (sum)		0,05	Solvent extraction and analysis by GC-MS / HS-GC-MS EN 17131
	VOC		Benzene: 5 Methyl Alcohol: 1000 N-exane: 150 Toluene: 200			
	OTHER SOLVENTS		DMF: 50 NMP: 100 DMAc: 300 2-methoxyethanol: 10 Others 500	DMF: 200 NMP: 500 DMAc: 500 2-methoxyethanol: 10 Others 500		
VYNIL CHLORIDE MONOMER (VCM) (only for synthetic materials like fake leather)		mg/kg	1 (residual content)		0,5	GB/T 4615

PARAMETER	UNIT	LIMIT VALUE KIDS (0-16 YEARS)	LIMIT VALUE ADULTS (>16 YEARS)	DETECTION LIMIT	METHODS
<b>TOTAL HEAVY METALS</b>					
Arsenic (As)	mg/kg	25		1	EN 16711-1 Baby & Children footwear QB/T 4340
Cadmium (Cd)		n.d.*		1	EN 16711-1 GB/T 30157 Baby & Children footwear QB/T 4340
Lead (Pb)		40 (jewelry and costume jewelry) 90 Textile and coated textile	90 Textile and coated textile	1	EN 16711-1 CPSC-CH-E1002-08.3 GB/T 30157 CPSC-CH-E1003-09.1 (dyes and coatings) Baby & Children footwear QB/T 4340
Mercury (Hg)		1		0,05	EN 16711-1
<b>EXTRACTABLE HEAVY METALS</b>					
Chromium VI (CrVI)	mg/kg	0,5		0,5	GB/T 17593.3 ISO 17075-2 EN 16711-2 Rubber shoes and children's shoes: (upper, lining and socks): Arsenic, requirements in GB/T 17593.4; Cadmium and Lead requirements also in GB/T 17593.1
Chromium VI (CrVI) compounds (listed in Annex XVII, Entry 28, 29, 30, Appendices 1-6)		1		1	
Antimony (Sb)		30		5	
Arsenic (As)		0,2	1	0,02	
Arsenic compounds (listed in Annex XVII, Entry 28, 29, 30, Appendices 1-6)		1		1	
Barium (Ba)		1000		1	
Cadmium (Cd)		0,1		0,02	
Cadmium compounds (listed in Annex XVII, Entry 28, 29, 30, Appendices 1-6)		1		1	
Cobalt (Co)		1	4	0,1	
Chromium (Cr)		1	2	0,5	
Manganese (Mn)		150	200	0,1	
Mercury (Hg)		0,02		0,01	
Nickel (Ni)		1	4	1	
Lead (Pb)		0,2	1	0,1	
Lead compounds (listed in Annex XVII, Entry 28, 29, 30, Appendices 1-6)		1		1	
Copper (Cu)		25	50	5	
Selenium (Se)	100		1		



PARAMETER	UNIT	LIMIT VALUE KIDS (0-16 YEARS)	LIMIT VALUE ADULTS (>16 YEARS)	DETECTION LIMIT	METHODS
<b>SOLUBLE HEAVY METALS</b>					
Antimony (Sb)	mg/kg	60	-	1	<b>EN16711-2</b> (Supplier is also required to comply with the following requirements: <b>KS G ISO 8124-3<sup>(1)</sup></b> <b>EN 71-3</b> <b>ISO 8124-3</b> <b>GB/T 28020</b> <b>CNS 4797-2</b> <b>Cd: also, SNI 7617)</b>
Arsenic (As)		25	-		
Barium (Ba)		1000			
Cadmium (Cd)		75 Forbidden for accessories on textile products	-		
Chromium (Cr)		60	-		
Mercury (Hg)		60	-		
Lead (Pb)		90			
Selenium (Se)		500	-		

## 1.3 LEATHER AND FUR

*Some OTB brands are fur free.*

PARAMETER	UNIT	LIMIT VALUE KIDS (0-16 YEARS)	LIMIT VALUE ADULTS (>16 YEARS)	DETECTION LIMIT	METHODS
ALKYLPHENOLS (AP) (Tab. 1)	mg/kg	100 (sum)		10	ISO 18218-2
ALKYLPHENOLS ETHOXYLATES (APEOS) (Tab. 2)	mg/kg	100 (sum)		10	EN ISO 18218-1 CNS 15579
ASBESTOS (Tab. 3)	mg/kg	n.d.*		N/A	Microscopic examination SEM
BIOCIDES (Tab. 4B)	mg/kg	n.d.*	n.d.*	0,5	Solvent extraction and analysis by GC-MS / LC-MS
BIOCIDES (Tab. 4B) Additional requirements for watch straps and similar		PCMC: 150 OIT: 50 OPP: 1 TCMTB: 250 (500 sum)	PCMC: 300 OIT: 100 OPP: 1 TCMTB: 500 (1200 sum)		EN ISO 13365 or Solvent extraction and analysis by GC-MS / LC-MS
BISPHENOLS (Tab. 19)	mg/kg	500 (sum)		10	ISO 11936
BORIC ACID	mg/kg	n.d.*		5	Microwave digestion and analysis by ICP-MS or GC - MS
CHLOROBENZENES AND CHLOROTOLUENES (Tab. 5)	mg/kg	1	1 15 (sum - for recycled materials only)	0,2 (each)	EN 17137
		Pentachlorobenzene and Esachlorobenzene: n.d.*			
CHROMIUM VI (Cr VI)	mg/kg	3		0,5	EN ISO 17075-2 Analysis after ageing: 1) GARMENT & LEATHERGOODS ISO 10195 A1 60° C. Max 20% humidity + EN ISO 17075 2) SHOES ISO 10195 A2 80° C. Max 10% humidity+ EN ISO 17075 For rubber / children's shoes: upper, lining and socks also according to requirement GB/T 38402 KS M 6902 <sup>(1)</sup>
DIMETHYL FUMARATE (DMFu)	mg/kg	0,1		0,05	CEN ISO/TS 16186 For rubber / children's shoes (leather, fur, synthetic or artificial leather-like material) also according to GB/T 26713
VYNIL CHLORIDE MONOMER (VCM)	mg/kg	1		0,5	ISO 6401

PARAMETER		UNIT	LIMIT VALUE KIDS (0-16 YEARS)	LIMIT VALUE ADULTS (>16 YEARS)	DETECTION LIMIT	METHODS
COLORANTS	CARCINOGENIC (Tab. 6A)	mg/kg	n.d*		10	DIN 54231 ISO 16373-2 ISO-16373-3
	DISPERSE ALLERGENIC (Tab. 6B)		n.d*		5	DIN 54231 KS K 0736 <sup>(1)</sup> ISO-16373-2
	CLEAVABLE ARYLAMINES / ARYLAMINES (AZO) (Tab. 6C)		n.d*		5	EN ISO 17234-1,2 GB 20400: GB/T 19942 GB/T 33392 EN 14362-1 and 3 Synthetic or artificial leather GB 20400: GB/T 19942 GB/T 17592 GB/T 33392 KS K 0147(1)
	OTHERS (Tab. 6D)		n.d*		10	DIN 54231
DIOXINS AND FURANS (Tab. 17)	GROUP A	µg/kg	1		1	Organic solvent extraction and analysis by GC-MS
	GROUP B		5			
	GROUP C		100			
FLAME RETARDANTS (Tab. 15)		mg/kg	n.d.*		5	Rif. EN ISO 17881-1/-2 Rif. GB/T 24279 solvent extraction and analysis by GC/MS or LC-MS or GC-ECD
ALL PFAS AS MEASURED BY TOTAL ORGANIC FLUORINE		mg/kg	100 (50 by 2027)		5	EN 14582 or ASTM D7359
PERFLUOROCTANE SULFONATE (PFOS) AND RELATED SUBSTANCES (Tab. 7A)		µg/m <sup>2</sup>	1		1	EN ISO 23702-1 or EN 17681-1 & 17681-2
PERFLUOROCTANOIC ACID (PFOA) AND ITS SALTS (Tab. 7B)		µg/kg	25		1	
PFOA-RELATED SUBSTANCES (Tab. 7C)		µg/kg	1000		1	
PERFLUOROHEXANE-1-SULPHONIC ACID (PFHXS) AND ITS SALTS (Tab. 7D)		µg/kg	25		1	
PFHXS-RELATED SUBSTANCES (Tab. 7D)		µg/kg	1000		1	
C9-C14 PERFLUOROCARBOXYLIC ACIDS (PFCAS) AND THEIR SALTS (Tab. 7E)		µg/kg	25		1	
C9-C14 PFCA-RELATED SUBSTANCES (Tab. 7F)		µg/kg	260		1	

PARAMETER	UNIT	LIMIT VALUE KIDS (0-16 YEARS)	LIMIT VALUE ADULTS (>16 YEARS)	DETECTION LIMIT	METHODS
FORMALDEHYDE (FREE AND EXTRACTABLE)	mg/kg	16: 0-3 Years 75: 4-14 Years	75	5	EN ISO 17226-1 GB/T 19941 KS K ISO 17226-2 <sup>(1)</sup>
MEDIUM CHAIN CHLORINATED PARAFFINS MCCP C14-C17	mg/kg	100		100	Extraction + analysis by GC/MS Rif. EN ISO 18219-2
ORGANOTIN COMPOUNDS (Tab. 8)	mg/kg	TBT/ TPhT/TBTO: n.d.* Others: 1		TBT: 0,1 Others: 0,2	CEN ISO/TS 16179 KS K 0737
ORTHOPHENYLPHENOL (OPP)	mg/kg	750		5	ISO 13365-1
PENTACHLOROPHENOL (PCP) TETRACHLOROPHENOLS (TeCP) TRICHLOROPHENOLS (TriCP) DICHLOROPHENOLS (DCP) MONOCHLOROPHENOLS (MCP) (Tab. 13)	mg/kg	PCP: n.d.* TeCP: n.d.* TriCP: n.d.* DCP: 0,5 mg/kg (sum) MCP: 0,5 mg/kg (sum)	PCP: n.d.* TeCP: n.d.* TriCP: n.d.* DCP: 3 mg/kg (sum) MCP: 3 mg/kg (sum)	0,05 (each)	EN ISO 17070 Rubber shoes and children's shoes (synthetic or artificial leather-like material) PCP/TeCP also GB/T 18414.1-2 KS K ISO 0733 <sup>(1)</sup> (PCP only) DIN 50009
PESTICIDES (Tab. 4A)	mg/kg	n.d.*		0,5	Solvent extraction and analysis by GC-MS LC-MS
PHENYLMERCURY COMPOUNDS (Tab. 12)	mg/kg	1		1	ISO 17072-2
PHTHALATES (Tab. 9) (for coated / patent / printed / laminated leathers)	mg/kg	DEHP, DBP, BBP, DINP, DIBP:50 (each) DNOP: 100 Others: 500 (sum)		50 (each)	CEN ISO/TS 16181 CPSC-CH-C1001-09.4 ISO 14389
pH	-	3,5 – 7,5 $\Delta\text{pH} \leq 0,7$		-	EN ISO 4045
POLYCYCLIC AROMATIC HYDROCARBONS (PAH) (Tab. 10)	mg/kg	GROUP A: 0.5 (each)	GROUP A: 1 (each)	0,2	AfPS GS 2019:01 PAK UNI CEN ISO/TS 16190
		GROUP A + GROUP B: 10 (sum)			
POLYCHLOROBIPHENYLS (PCB) POLYCHLORONAPHTHALENES (PCN) (Tab. 14)	mg/kg	PCB: 0,1		PCB: 0,1 PCN: 1	EPA 3540C + EPA 8082A
		PCN: 1			EPA 3550C + EPA 8270E
QUINOLINE	mg/kg	50		5	MeOH extraction + GC-MS or THF / DCM + HPLC-MS

PARAMETER		UNIT	LIMIT VALUE KIDS (0-16 YEARS)	LIMIT VALUE ADULTS (>16 YEARS)	DETECTION LIMIT	METHODS	
RESIDUAL SOLVENTS (Tab. 16)	CHLORINATED SOLVENTS	mg/kg	α-chlorotoluene : 1 GROUP A: 500 (sum) GROUP B 50 (sum)		0,05	solvent extraction and analysis by GC-MS / HS-GCMS	
	VOC		Benzene: 5 Methyl Alcohol: 1000 N-hexane: 150 Toluene:200				
	OTHERS SOLVENTS		DMF: 50 NMP: 100 DMAc: 300 2-methoxyethanol: 10 Others 500	DMF: 200 NMP: 500 DMAc: 500 2-methoxyethanol: 10 Others 500			
SHORT CHAIN CHLORINATED PARAFFINS SCCC C10-C13		mg/kg	50		10	ISO 18219-1	
<b>TOTAL HEAVY METALS</b>							
Arsenic (As)		mg/kg	100	-	1	EN ISO 17072-2 Baby & Children footwear QB/T 4340	
Cadmium (Cd)		mg/kg	40		1	EN ISO 17072-2 Baby & Children footwear QB/T 4340 EN 1122	
Lead (Pb)		mg/kg	40 (jewelry and costume jewelry) 90 (leather and patent leather)	90 (leather and patent leather)	1	EN ISO 17072-2 CPSC-CH-E1002-08.3 Baby & Children footwear QB/T 4340	
Tin (Sn)		mg/kg	1 (watch straps and similar)		1	EN ISO 17072-2	
<b>EXTRACTABLE HEAVY METALS</b>							
Antimony (Sb)		mg/kg	30		0.5	EN 17072-1 Arsenic, requirement also in GB/T 17593.4; Cadmium and Lead requirement also in GB/T 17593-1 GB/T 17593-3	
Arsenic (As)			0,2		0,02		
Barium (Ba)			1000		0,5		
Cadmium (Cd)			0,1		0,02		
Cobalt (Co)			1: 0-24 months 4: 25 months – 14 years	4			0,1
Mercury (Hg)			0.02		0,005		
Nickel (Ni)			1: 0-24 months 4: 25 months – 14 years	4			0,1
Lead (Pb)			0.2: 0-24 months 1: 25 months – 14 years	0,8			0,1
Copper (Cu)			25: 0-24 months 50: 25 months – 14 years	50			5,0
Selenium (Se)			100		0,1		

PARAMETER	UNIT	LIMIT VALUE KIDS (0-16 YEARS)	LIMIT VALUE ADULTS (>16 YEARS)	DETECTION LIMIT	METHODS
<b>SOLUBLE HEAVY METALS</b>					
Antimony (Sb)	mg/kg	60	-	1	<b>EN 71-3</b> (Supplier is also required to comply with the following requirements: KS G ISO 8124-3 <sup>(1)</sup> <b>ISO 8124-3</b> <b>GB/T 28020</b> <b>CNS 4797-2</b> Cadmium also SNI 7617:2013 Lead/PVC leather also GB/T 30157)
Arsenic (As)		25	-		
Barium (Ba)		1000			
Cadmium (Cd)		75	-		
Chromium (Cr)		60	-		
Mercury (Hg)		60	-		
Lead (Pb)		90			
Selenium (Se)		500	-		

## 1.4 PLASTIC / RUBBER

PARAMETER		UNIT	LIMIT VALUE KIDS (0-16 YEARS)	LIMIT VALUE ADULTS (>16 YEARS)	DETECTION LIMIT	METHODS
ASBESTOS (Tab. 3)		mg/kg	n.d.*		N/A	Microscopic examination SEM
BISPHENOLS (Tab. 19)		mg/kg	n.d.*		10	EN 71-10/11 (migration) or LCMS-MS
PHENYLMERCURY COMPOUNDS (Tab. 12)		mg/kg	10		1	ISO 17072-2 EN 16711
DIMETHYL FUMARATE (DMFu)		mg/kg	0,1		0,05	CEN ISO/TS 16186 GC-ECD
DIOXINS AND FURANS (Tab. 17)	GROUP A	µg/kg	1		1	Organic solvent extraction and analysis by GC-MS
	GROUP B		5			
	GROUP C		100			
FLAME RETARDANTS (Tab. 15)		mg/kg	n.d.*		5	solvent extraction and analysis by GC/MS o LC/MS or GC/EDC
ISOCYANATES (Tab. 11)		mg/kg	n.d.*		1	RIF. EN 13130-8 LC MS-MS
MEDIUM CHAIN CHLORINATED PARAFFINS MCCP C14-C17		mg/kg	100		100	Extraction + analysis by GC/MS Rif. EN ISO 18219-2
NITROSAMINES (Tab. 18)		mg/kg	0,5		0,5	GB/T 24153 EN ISO 19577 with LC/MS/MS verification if positive
ORGANOTIN COMPOUNDS (Tab. 8)		mg/kg	TBT/ TPhT/TBTO: n.d.* (each substance) Others: 1 (each substance)		TBT: 0,1 Others: 0,2	CEN ISO/TS 16179
PENTACHLOROBENZENE AND ESACHLOROBENZENE (VOC)		mg/kg	10		0,2 (each)	DIN 54232 EN 17137
PENTACHLOROPHENOL (PCP) TETRACHLOROPHENOLS (TeCP) (Tab. 13)		mg/kg	PCP: n.d.* (0,5) TeCP: n.d.* (0,5)	PCP: n.d.* (0,5) TeCP: n.d.* (0,5)	0,05 (each)	EN ISO 17070 Rubber shoes and children's shoes (synthetic or artificial leather-like material) PCP/TeCP also GB/T 18414.1-2 KS K ISO 0733 <sup>(1)</sup> (PCP only) DIN 50009
PHTHALATES (Tab. 9)		mg/kg	DEHP, DBP, BBP, DINP, DIBP:50 (each) DNOP: 100 Others: 500 (sum)		50 (each)	CEN ISO/TS 16181 CPSC-CH-C1001-09.4 ISO 8124-6
PCTP (PENTACHLOROTHIOPHENOL)		mg/kg	10.000		5	Solvent extraction and analysis by LC-MS

PARAMETER		UNIT	LIMIT VALUE KIDS (0-16 YEARS)	LIMIT VALUE ADULTS (>16 YEARS)	DETECTION LIMIT	METHODS
POLYCYCLIC AROMATIC HYDROCARBONS (PAH) (Tab. 10)		mg/kg	GROUP A: 0.5 (each)	GROUP A: 1 (each)	0,2	AfPS GS 2019:01 PAK
			GROUP A + GROUP B: 10 (sum)			
POLYCHLOROBIPHENYLS (PCB) POLYCHLORONAPHTHALENES (PCN) (Tab. 14)		mg/kg	PCB: 0,1		0,1	Rif. EPA 3540C + EPA 8082A
			PCN: 1		1	Rif. EPA 3550C + EPA 8270E
PVC		-	PROHIBITED		-	-
SHORT CHAIN CHLORINATED PARAFFINS SCCP C10-C13		mg/kg	n.d*		50	Extraction + analysis by GC/MS Rif. EN ISO 18219-1
SOLVENTS (Tab. 16)	CHLORINATED SOLVENTS	mg/kg	α-chlorotoluene: 1 GROUP A: 500 (sum) GROUP B 50 (sum)		0,05	Solvent extraction and analysis by GC-MS / HS-GCMS
	VOC		Benzene: 5 Methyl Alcohol: 1000 N-exane: 150 Toluene: 200			
	OTHER SOLVENTS		DMF: 50 NMP: 100 DMAc: 300 2-methoxyethanol: 10 Others 500	DMF: 200 NMP: 500 DMAc: 500 2-methoxyethanol: 10 Others 500		
VYNIL CHLORIDE MONOMER (VCM)		mg/kg	1		0,5	GB/T 4615
TOTAL HEAVY METALS						
Arsenic (As)		mg/kg	25	-	1	Microwave acid digestion and analysis by ICP-OES/MS Baby & Children footwear QB/T 4340
Cadmium (Cd)		mg/kg	40	75	1	EN 1122 Baby & Children footwear QB/T 4340
Lead (Pb)		mg/kg	40 (jewelry and costume jewelry) 90	100 (substrate) 90 (painted materials)	1	CPSC-CH-E1002-08.3 CPSC-CH-E1003-09.1 (painted materials) Baby & Children footwear QB/T 4340
Mercury (Hg)		mg/kg	1		0,05	Microwave acid digestion and analysis by ICP-MS/OES



PARAMETER	UNIT	LIMIT VALUE KIDS (0-16 YEARS)	LIMIT VALUE ADULTS (>16 YEARS)	DETECTION LIMIT	METHODS
<b>EXTRACTABLE HEAVY METALS</b>					
Alluminium (Al)	mg/kg	28.130	-	1	EN 71-3 extraction with hydrochloric acid 0,07M GB/T 28485 GB/T 19719
Antimony (Sb)		30		0,5	
Arsenic (As)		1		0,02	
Barium (Ba)		18.750	-	0,5	
Boron (B)		15.000	-	1	
Cadmium (Cd)		0,1		0,02	
Chromium (III)		460	-	1	
Chromium (VI)		n.d.*	-	0,0025	
Cobalt (Co)		130	-	0,1	
Mercury (Hg)		94	-	0,005	
Manganese (Mn)		15.000	-	1	
Nickel (Ni)		930	-	1	
Lead (Pb)		1		0,1	
Copper (Cu)		7.700	-	5,0	
Selenium (Se)		460	-	0,1	
Tin (Sn)		180.000	-	1	
Strontium (Sr)		56.000	-	1	
Zinc (Zn)		46.000	-	1	
<b>SOLUBLE HEAVY METALS</b>					
Antimony (Sb)	mg/kg	60	-	1	EN 71-3 (Supplier is also required to comply with the following requirements: KS G ISO 8124-3 <sup>(1)</sup> ISO 8124-3 GB/T 28020 CNS 4797-2)
Arsenic (As)		25	-		
Barium (Ba)		1000			
Cadmium (Cd)		75	-		
Chromium (Cr)		60	-		
Mercury (Hg)		60	-		
Lead (Pb)		90			
Selenium (Se)		500	-		

## 1.5 METAL PARTS

PARAMETER	UNIT	LIMIT VALUE KIDS (0-14 YEARS)	LIMIT VALUE ADULTS (>14 YEARS)	DETECTION LIMIT	METHODS
ASBESTOS (Tab. 3)	mg/kg	n.d.*		N/A	Microscopic examination SEM
NICKEL RELEASE	µg/cm <sup>2</sup> /week	Earrings / piercings: 0,11 Others: 0,28		0,01	Coated/plated EN 12472 EN 12471 EN 1811 Sun/optical glasses frames: EN 16128
POLYCHLOROBIPHENYLS (PCB) POLYCHLORONAPHTHALENES (PCN) coated materials (Tab. 14)	mg/kg	PCB: 0,1		0,1	EPA 3540C + EPA 8082A
		PCN: 1		1	EPA 3550C + EPA 8270E
TOTAL ARSENIC	mg/kg	25	1000	1	Microwave acid + ICP-MS/OES GB/T 21198-6 e GB/T 28021 Baby & Children footwear QB/T 4340 GB/T 28020
TOTAL CADMIUM	mg/kg	40	75	1	Microwave Digestion ICP-MS/OES GB/T 28021 DIN EN 16711-1 CPSC-CH-E1004-11 Baby & Children footwear QB/T 4340 GB/T 28020
TOTAL CHROMIUM (VI)	mg/kg	1000		1	GB/T 28019
TOTAL LEAD	mg/kg	Jewellery: 40 Paint/coating: 90 Substrate: 90	Paint/coating: 90 Substrate: 100	1	Coated: CPSC-CH-E1003-09.1 Substrate CPSC-CH-E1001-08.3 GB/T 28021 Baby & Children footwear QB/T 4340
TOTAL MERCURY	mg/kg	1		0,05	Acid Digestion + det. ICP-MS/OES GB/T 21198-6 GB/T 28021
<b>EXTRACTABLE HEAVY METALS</b>					
Alluminium (Al)	mg/kg	28.130	-	1	EN 71- 3 extraction with hydrochloric acid 0,07M Jewellery also (adults, only for coating ≥ 10 mg): ASTM F963-11 KS G ISO 8124-3 <sup>(1)</sup> ISO 8124-3
Antimony (Sb)		560	-	0,5	
Arsenic (As)		25	-	0,02	
Barium (Ba)		18.750	-	0,5	
Boron (B)		15.000	-	1	
Cadmium (Cd)		17	75 (Jewellery)	0,02	

PARAMETER	UNIT	LIMIT VALUE KIDS (0-14 YEARS)	LIMIT VALUE ADULTS (>14 YEARS)	DETECTION LIMIT	METHODS
Chromium III		460	-	1	
Chromium VI		0,053	-	0,0025	
Chromium total		60 (Jewellery)	-	1	
Cobalt (Co)		130	-	0,1	
Mercury (Hg)		94	-	0,005	
Manganese (Mn)		15.000	-	1	
Lead (Pb)		23	-	0,1	
Copper (Cu)		7.700	-	5	
Selenium (Se)		460		0,1	
Tin (Sn)		180.000	-	1	
Strontium (Sr)		56.000	-	1	
Zinc (Zn)		46.000	-	1	
<b>SOLUBLE HEAVY METALS (Coated/painted metals)</b>					
Antimony (Sb)	mg/kg	60	-	1	<b>EN 71-3</b> <b>(Supplier is also required to comply with the following requirements</b> <b>KS G ISO 8124-3<sup>(1)</sup></b> <b>ISO 8124-3</b> <b>GB/T 28020</b> <b>CNS 4797-2)</b>
Arsenic (As)		25	-		
Barium (Ba)		1000	-		
Cadmium (Cd)		75	-		
Chromium (Cr)		60	-		
Mercury (Hg)		60	-		
Lead (Pb)		90	-		
Selenium (Se)		500	-		

## 1.6 GLASS AND CRYSTALS

PARAMETER	UNIT	LIMIT VALUE KIDS (0-14 YEARS)	LIMIT VALUE ADULTS (>14 YEARS)	DETECTION LIMIT	METHODS
ASBESTOS (Tab. 3)	mg/kg	n.d.*		N/A	Microscopic examination SEM
TOTAL CADMIUM	mg/kg	40	1000	1	EN 16711-1
TOTAL LEAD	mg/kg	Jewellery: 40 Paint/coating: 90 Substrate: 90	Paint/coating: 90 Substrate: 100	1	CPSC-CH-E1002-08.3 Coated: CPSC-CHE-1003-09.1
TOTAL MERCURY	mg/kg	1		0,05	Microwave acid digestion and analysis by ICP-MS/OES
<b>EXTRACTABLE HEAVY METALS</b>					
Alluminium (Al)	mg/kg	28.130	-	1	EN 71-3 extraction with hydrochloric acid 0,07M GB/T 28485 GB/T 1971
Antimony (Sb)		560	-	0,5	
Arsenic (As)		47	-	0,02	
Barium (Ba)		18.750	-	0,5	
Boron (B)		15.000	-	1	
Cadmium (Cd)		17	-	0,02	
Chromium (III)		460	-	1	
Chromium (VI)		0,053	-	0,0025	
Cobalt (Co)		130	-	0,1	
Mercury (Hg)		94	-	0,005	
Manganese (Mn)		15.000	-	1	
Nickel (Ni)		930	-	1	
Lead (Pb)		23	-	0,1	
Copper (Cu)		7.700	-	5,0	
Selenium (Se)		460	-	0,1	
Tin (Sn)		180.000	-	1	
Strontium (Sr)		56.000	-	1	
Zinc (Zn)		46.000	-	1	
<b>SOLUBLE HEAVY METALS</b>					
Antimony (Sb)	mg/kg	60	-	1	KS G ISO 8124-3 ISO 8124-3 CNS 4797-2
Arsenic (As)		25	-		
Barium (Ba)		1000			
Cadmium (Cd)		75	-		
Chromium (Cr)		60	-		
Mercury (Hg)		60	-		
Lead (Pb)		90			
Selenium (Se)		500	-		

## 1.7 WOOD / COROZO / BAMBOO AND SIMILAR MATERIALS

PARAMETER	UNIT	LIMIT VALUE KIDS (0-14 YEARS)	LIMIT VALUE ADULTS (>14 YEARS)	DETECTION LIMIT	METHODS
ASBESTOS (Tab. 3)	mg/kg	n.d.*		N/A	Microscopic examination SEM
BORIC ACID	mg/kg	n.d.*		5	Acid digestion + ICP-MS And water extraction + GC/MS
DIMETHYL FUMARATE (DMFu)	mg/kg	0,1		0,05	CEN ISO/TS 16186 GC-ECD
FLAME RETARDANTS (Tab. 15)	mg/kg	n.d.*		5	ISO 17881-1.2 Solvent extraction and analysis by GC-MS; LC -MS; GC-ECD
FORMALDEHYDE (FREE AND EXTRACTABLE)	mg/L or mg/kg	0,5 mg/L: 0-3 years 75: 4-14 years	75	0,5 16	EN 717-3 CNS 15880-1
FORMALDEHYDE (RELEASE)	ppm	Hardwood plywood: 0,05 Particleboard: 0,09 MDF: 0,11 Thin-MDF 32F (thickness ≤8mm): 0,13		0,03	ASTM E1333-14 ASTM D6007-14 ASTM D5582-14
PENTACHLOROPHENOL (PCP) TETRACHLOROPHENOLS (TeCP) TRICHLOROPHENOLS (TriCP) DICHLOROPHENOLS (DCP) MONOCHLOROPHENOLS (MCP) (Tab. 13)	mg/kg	PCP: n.d.* TeCP: n.d.* TriCP: n.d.* DCP: 0,5 (sum) MCP: 0,5 (sum)	PCP: n.d.* TeCP: n.d.* TriCP: n.d.* DCP: 3 (sum) MCP: 3 (sum)	0,05 (each)	CEN/TR 14823 UNI 11057 textile ISO 17070 leather CEN/TR 14823 DIN 50009
PHENYLMERCURY COMPOUNDS (Tab. 12)	mg/kg	1		1	Microwave digestion - ICP-MS/OES EN 16711-1 EN 16711-2 EN ISO 17072-1 EN ISO 17072-2
POLYCYCLIC AROMATIC HYDROCARBONS (PAH) (Tab. 10)	mg/kg	GROUP A: 0.5 (each)	GROUP A: 1 (each)	0,2	AfPS GS 2019:01 PAK UNI CEN ISO/TS 16190
		GROUP A + GROUP B: 10 (sum)			
POLYCHLOROBIPHENYLS (PCB) POLYCHLORONAPHTHALENES (PCN) For coated materials (Tab. 14)	mg/kg	PCB: 0,1		0,1	EPA 3540C + EPA 8082A
		PCN: 1		1	EPA 3550C + EPA 8270E
PRESERVATIVES	mg/kg	Lindane: 1 Cyfluthrin, Cypermethrin, Deltamethrin, Permethrin: 5		Lindane: 1. Others: 5	EN 71-9 GC-MS; GC-ECD+ EN 71-11, acetic acid and ethanol extraction

PARAMETER		UNIT	LIMIT VALUE KIDS (0-14 YEARS)	LIMIT VALUE ADULTS (>14 YEARS)	DETECTION LIMIT	METHODS
SOLVENTS (Tab. 16)	CHLORINATED SOLVENTS	mg/kg	α-chlorotoluene: 1 GROUP A: 500 (sum) GROUP B: 50 (sum)		0,05	Solvent extraction and analysis by GC-MS / HS-GCMS
	VOC		Benzene: 5 Methyl Alcohol: 1000 N-exane: 150 Toluene:200			
	OTHER SOLVENTS		DMF: 50 NMP: 100 DMAc: 300 2-methoxyethanol: 10 Others 500 (each)	DMF: 200 NMP: 500 DMAc: 500 2-methoxyethanol: 10 Others 500 (each)		
<b>TOTAL HEAVY METALS</b>						
Arsenic (As)		mg/kg	n.d.*		1,0	DIN EN 16711-1 Acid digestion + analysis by ICP-OES/MS Baby & Children footwear QB/T 4340 (for As, Cd, Pb) KS G ISO 8124-3 GB/T 28019
Cadmium (Cd)			40		1,0	
Chromium (VI)			1000		1	
Mercury (Hg)			1		0,05	
Lead (Pb)			40 (jewellery only) 90 substrate and coating	90 substrate and coating		
<b>EXTRACTABLE HEAVY METALS</b>						
Alluminio (Al)			28.130	-		EN 71-3 extraction with hydrochloric acid 0,07M GB/T 28485 GB/T 19719
Antimony (Sb)			60	-	0,5	
Arsenic (As)			25	-	0,02	
Barium (Ba)			18.750	-	0,5	
Boron (B)			15.000	-	1	
Cadmium (Cd)			17	-	0,02	
Chromium (III)			460	-	1	
Chromium (VI)			0,053		0,0025	
Cobalt (Co)			130	-	0,1	
Mercury (Hg)			94	-	0,005	
Manganese (Mn)			15.000		1	
Nickel (Ni)			930	-	1	
Lead (Pb)			23	-	0,1	
Copper (Cu)			7.700	-	5,0	
Selenium (Se)			460	-	0,1	

PARAMETER	UNIT	LIMIT VALUE KIDS (0-14 YEARS)	LIMIT VALUE ADULTS (>14 YEARS)	DETECTION LIMIT	METHODS
Tin (Sn)		180.000	-	1	
Strontium (Sr)		56.000	-	1	
Zinc (Zn)		46.000	-	1	
<b>SOLUBLE HEAVY METALS</b>					
Antimony (Sb)	mg/kg	60	-	1	KS G ISO 8124-3 <sup>(1)</sup> ISO 8124-3 hydrochloric acid 0,07M CNS 4797-2
Arsenic (As)		25	-		
Barium (Ba)		1000			
Cadmium (Cd)		75	-		
Chromium (Cr)		60	-		
Mercury (Hg)		60	-		
Lead (Pb)		90			
Selenium (Se)		500	-		

## 1.8 PAPER AND SIMILAR

PARAMETER	UNIT	LIMIT VALUE KIDS (0-14 YEARS)	LIMIT VALUE ADULTS (>14 YEARS)	DETECTION LIMIT	METHODS
<b>ALKYLPHENOLS (AP)</b> (Tab. 1)	mg/kg	100 (sum)		10	Rif. ISO 21084
<b>ALKYLPHENOLS ETHOXYLATES (APEO)</b> (Tab. 2)	mg/kg	100 (sum)		10	EN ISO 18254-1
<b>FORMALDEHYDE (FREE AND EXTRACTABLE)</b>	mg/L or mg/kg	16: 0-3 years 75: 4-14 years  0,5 mg/L: 0-3 years only for paper products for children, not packaging.	75	0,5 16	JIS L 1041 EN 1541 CNS 15880-1 JIS L 1041 EN ISO 14184-1
<b>TOTAL HEAVY METALS</b>	<b>CADMIUM</b>	mg/kg	100 (sum)	Lead, Cadmium, Mercury: 1 Chromium VI: 3	DIN EN 16711-1 Acid digestion + analysis by ICP-MS/OES Lead also CPSC-CH-E-1002-08.3 e CPSC-CH-E-1001-08.3 EN 16711-3 QB/T 4340
	<b>CHROMIUM VI</b>				
	<b>MERCURY</b>				
	<b>LEAD</b>				

## 1.9 ADHESIVES AND GLUES

PARAMETER		UNIT	LIMIT VALUE KIDS (0-14 YEARS)	LIMIT VALUE ADULTS (>14 YEARS)	DETECTION LIMIT	METHODS
FORMALDEHYDE (FREE AND EXTRACTABLE)		mg/kg	16: 0-3 years 75: 4-14 years	75	16	EN ISO 14184-1 GB/T 2912.1
ISOCYANATES (Tab. 11)		mg/kg	n.d*		1	RIF. EN 13130-8 LC MS-MS
ORGANOTIN COMPOUNDS (Tab. 8)		mg/kg	TBT/ TPhT/TBTO: n.d* (each substance) Others: 1 (each substance)		TBT: 0,1 Others: 0,2	CEN ISO/TS 16179 ISO 17353 NIEA T 504.30B
PHTHALATES (Tab. 9)		mg/kg	DEHP, DBP, BBP, DINP: 50 DNOP: 100 Others: 500 mg/kg sum		50	EN ISO 14389 CPSC-CH-C1001-09.4 ISO 8124-6
POLYCYCLIC AROMATIC HYDROCARBONS (PAH) (Tab. 10)		mg/kg	GROUP A: 0.5 (each)	GROUP A: 1 (each)	0,2	AfPS GS 2019:01 PAK
			GROUP A + GROUP B: 10 (sum)			
RESIDUAL SOLVENTS (Tab. 16)	CHLORINATED SOLVENTS	mg/kg	α-chlorotoluene: 1 GROUP A: 500 (sum) GROUP B 50 (sum)		0,05	Solvent extraction and analysis by GC-MS HS-GCMS
	VOC		Benzene: 5 Methyl Alcohol: 1000 N-exane: 150 Toluene: 200			
	OTHER SOLVENTS		DMF: 50 NMP: 100 DMAc: 300 2-methoxyethanol: 10 Others: 500	DMF: 200 NMP: 500 DMAc: 500 2-methoxyethanol: 10 Others: 500		
<b>TOTAL HEAVY METALS</b>						
Arsenic		mg/kg	100		1	EN 16711-1 Baby & Children footwear QB/T 4340
Cadmium			75		1	DIN EN 16711-1:2016 Baby & Children footwear QB/T 4340 EN 1122:2001 CNS 4797-2
Chromium (VI)			1000		1	GB/T 28019
Lead			90		1	EN 16711-1 CPSC-CH-E1002-08.3 GB/T 30157 CPSC-CH-E1003-09.1 (dyes and coatings) Baby & Children footwear QB/T 4340 CNS 4797-2
Mercury			10		10	EN 16711-1



## 1.10 PACKAGING

PARAMETER	UNIT	LIMIT VALUE	DETECTION LIMIT	METHODS
ALKYLPHENOLS (AP) (Tab. 1)	mg/kg	100 (sum)	10	Textiles and Leather: EN ISO 21084 with determination of LC/MS or LC/MS/MS Polymers and all other materials: extraction THF and analysis according to EN ISO 21084
ALKYLPHENOLS ETHOXYLATES (APEOS) (Tab. 2)	mg/kg	100 (sum)	10	All materials except Leather: EN ISO 18254-1 with determination of APEO using LC/MS or LC/MS/MS Leather: analysis using EN ISO 18218-1 with quantification according to EN ISO 18254-1
BISPHENOLS (Tab. 19)	mg/kg	1	0,1	Extraction with THF, analysis with LC/MS
BUTYLATED HYDROXYTOLUENE (BHT)	mg/kg	25	5	ASTM D4275
COLORANTS - CLEAVABLE ARYLAMINES / ARYLAMINES (AZO) (Tab. 6C)	mg/kg	20 (each)	5	All materials except leather: EN ISO 14362-1 Leather: EN ISO 17234-1  p-Aminoazobenzene: All materials except leather: EN ISO 14362-3 Leather: EN ISO 17234-2
DIMETHYL FUMARATE (DMFu)	mg/kg	0,1	0,05	CEN ISO/TS 16186
FORMALDEHYDE	mg/kg	150	16	Wood: EN 717-3 Paper: DIN EN 645 & EN 1541 Textiles, Finishings, Dyes, Inks & Coatings: JIS L 1041-2011 A or EN ISO 14184-1 Leather: EN ISO 17226-2
MOAH CONSISTING OF 1 TO 7 AROMATIC RINGS*	mg/kg	< 1.0% 1 January 2025 onwards < 1000 and <1 MOAH compounds containing 3 to 7 aromatic rings	5	HPLC-GC-FID method
MOSH CONSISTING OF 16 TO 35 CARBON ATOMS*	mg/kg	< 1000	5	

\*Suppliers should inform their contracted packaging and/or printing companies about the MOSH/MOAH restrictions in order that they determine, in consultation with printing ink manufacturers, the permissible printing inks (free of MOSH/MOAH) within the meaning of the Arrête du 13 Avril 2022. A declaration of conformity, whilst not yet required, will be required in the future as part of the planned EU Packaging Regulation

PARAMETER	UNIT	LIMIT VALUE	DETECTION LIMIT	METHODS
ORGANOTIN COMPOUNDS (Tab. 8)	mg/kg	TBT/ TPhT: 0,5 (each) Others: 1 (each)	0,1	CEN ISO/TS 16179 or EN ISO 22744-1
PHthalATES (Tab. 9)	mg/kg	500 (each) Total: 1000	50 (each)	CPSC-CH-C1001-09.4, analysis by GC/MS
<b>PER- AND POLYFLUOROALKYL SUBSTANCES</b>				
ALL PFAS AS MEASURED BY TOTAL ORGANIC FLUORINE	µg/kg	100 (50 by 2027)	5	EN 14582 or ASTM D7359
PERFLUOROCTANE SULFONATE (PFOS) AND RELATED SUBSTANCES (Tab. 7A)	µg/m <sup>2</sup>	1	1	EN ISO 23702-1 or EN 17681-1 & 17681-2
PERFLUOROCTANOIC ACID (PFOA) AND ITS SALTS (Tab. 7B)	µg/kg	25	1	
PFOA-RELATED SUBSTANCES (Tab. 7C)	µg/kg	1000	1	
PERFLUOROHEXANE-1-SULPHONIC ACID (PFHXS) AND ITS SALTS (Tab. 7D)	µg/kg	25	1	
PFHXS-RELATED SUBSTANCES (Tab. 7D)	µg/kg	1000	1	
C9-C14 PERFLUOROCARBOXYLIC ACIDS (PFCAS) AND THEIR SALTS (Tab. 7E)	µg/kg	25	1	
C9-C14 PFCA-RELATED SUBSTANCES (Tab. 7F)	µg/kg	260	1	
<b>TOTAL HEAVY METALS</b>				
Cadmium (Cd)	mg/kg	100 (sum)	1	All materials: Total heavy metals (Cd, Cr, Pb & Hg): DIN EN 16711-1 If the total of four heavy metals exceeds 100 ppm and Cr contributes to the sum, test for Cr VI with method described below
Lead (Pb)	mg/kg		1	
Mercury (Hg)	mg/kg		0,05	
Chromium (VI)	mg/kg		1	

## 1.11 HYGIENE AND CLEANING OF FEATHERS AND DOWN

PARAMETER	UNIT	LIMIT VALUE KIDS (0-14 YEARS)	LIMIT VALUE ADULTS (>14 YEARS)	METHODS
ALKYLPHENOLS (AP) (Tab. 1)	mg/kg	10 (sum)		GB/T 14272
ALKYLPHENOLS ETHOXYLATES (APEO) (Tab. 2)	mg/kg	100 (sum)		
OIL AND GREASE CONTENT	%	0,5 - 2		EN 1163
OXYGEN INDEX	mg O <sub>2</sub> /100 g	10		ASTM D-4522
		20		EN 1884
		4,8		JIS L1903
TURBIDITY	mm	≥ 500		EN 1164
MICROBIOLOGICAL STATE	CFU/g	Mesophil aerobic bacteria 1.000.000 Faecal streptococci 100 Silphide reducing clostridium 100 Salmonella: absent in 20 g		EN 1884

## 1.12 ADDITIONAL REQUIREMENTS FOR PRODUCTS INTENDED FOR CHILDREN FOR US MARKET

The following table contains additional requirements provided by some US States for all products intended for children up to 12 years old which are additional to the rules detailed in the other tables. Suppliers whose products are intended for children up to 12 years old on the US market are required to comply with both the requirements listed in the previous tables and the requirements listed in the following table.

SUBSTANCE	CAS NUMER	UNIT	LIMIT
1,4-Dioxane	123-91-1	mg/kg	20.0
2-Ethylhexanoic acid	149-57-5		5.0
2-Ethyl-hexyl-4-methoxycinnamate	5466-77-3		5.0
4-Hydroxybenzoic acid	99-96-7		5.0
Acetaldehyde	75-07-0		1.0
Acrylonitrile	107-13-1		1.0
Benzophenone-2 (Bp-2)	131-55-5		5
Bis(chloromethyl)propane-1,3-diyltetrakis-(2-chloroethyl) bis(phosphate) (V6)	38051-10-4		50.0
Bisphenol A (BPA)	80-05-7		1.0
Bisphenol F (BPF)	620-92-8		1.0
Bisphenol S(BPS)	80-09-1		1.0
Butyl paraben	94-26-8		5.0
Butylated hydroxyanisole (BHA)	25013-16-5		10.0
Carbon disulfide	75-15-0		1.0
Chlorinated paraffins	108171-26-2		50.0
Decabromodiphenyl ethane10(DBDPE)	84852-53-9		50.0
Estragole	140-67-0		10.0
Ethyl paraben	120-47-8		5.0
Ethylbenzene	100-41-4		1.0
Ethylene glycol	107-21-1		40.0
Ethylene glycol monoethyl ether	110-80-5		10.0
Ethylhexyl diphenyl phosphate (EHDPP)	1241-94-7		50.0
Hexachlorobutadiene	87-68-3		5.0
Isopropylated triphenyl phosphate (IPTPP)	68937-41-7		50.0
Methyl ethyl ketone	78-93-3		1.0
Methyl paraben	99-76-3		5.0
Phenol	108-95-2		1.0
Propyl paraben	94-13-3		5.0
Styrene	100-42-5		1.0
Tricresyl phosphate (TCP)	1330-78-5		50.0
Tri-n-butyl phosphate (TNBP)	126-73-8		50.0
Triphenyl phosphate(TPP)	115-86-6		50.0

## SECTION 2: OTB PRODUCT SAFETY REQUIREMENTS

### 2.1 MECHANICAL SAFETY

#### 2.1.1. REGULATORY FRAMEWORK

All finished components and articles supplied must guarantee a high level of protection of the health and safety children 0-14 years. It is the responsibility of suppliers to perform a complete risk assessment for all articles provided, on the basis of the following reference standards and documents and in particular:

- EU: EN 14682: 2014
- USA: ASTM F1816-97 (2009)
- China, GB 31701:2015
- State of New York (A10866)
- New York General Business Law GBS § 391-bb
- State of Wisconsin (ATCP 139)
- China: GB/T 22704:2019
- China: GB/T 22705:2019
- China: GB/T 22702:2019
- Spain: UNE 40902 2022
- EU: CEN/TR 16792: 2014
- Sweden: Swedish Consumer Agency Agreement Concerning Drawstrings and Hoods on Children's Clothes
- Japan: JIS L 4129:2015
- Korea: Special Act on Safety Management of Children's products
- Taiwan: CNS 15291:2021 Safety of Children's Clothing – Cords and Drawstrings on Children's Clothing – Specifications
- USA: 16 CFR 1500 e 1501.

Among mechanical hazards, note the following:

HAZARD	REFERENCE STANDARD
<b>CORDS, DRAWSTRINGS, ETC.</b>	
Cords, drawstrings, functional and decorative cords, flat loops, bows, shoulder straps etc.	USA: ASTM F1816-97; New York A10866; Wisconsin ATCP 139 UE: EN 14682:2014 China: GB/T 22704:2019; GB/T 22705:2019; GB/T 22702:2019; GB 31701:2015 Taiwan: CNS 15291:2021 Korea: Special Act on Safety Management of Children's products Japan: JIS L 4129:2015.
<b>DETACHABLE ELEMENTS</b>	
Buttons, beads, sequins, pompoms, ribbons, bows, applications, zip pullers, aglets etc.	UE: CEN/TR 16792: 2014 USA: 16 CFR 1500 and 1501 Spain: UNE 40902 2022 China: GB 31701:2015 South Korea: Standards for Household Products -Annex 1 (Household Textile Products); Special Act on Safety Management of Children's products.
<b>POINTED / SHARP EDGES</b>	
Sharp edges: studs, pointed edges, pins etc.	UE: CEN/TR 16792: 2014 USA: 16 CFR 1500 e 1501 Spain: UNE 40902 2022 China: GB 31701:2015 Korea: Special Act on Safety Management of Children's products.
<b>OTHER ELEMENTS</b>	
Any other mechanical hazard, including but not limited to: zips, hoods, warm applications, embroideries, sewing threads, elasticated cuffs, magnets, batteries, touch and close fasteners, mesh lining in boy's swimwear.	UE: CEN/TR 16792: 2014 USA: 16 CFR 1500 and 1501 Sweden: Swedish Consumer Agency Agreement Concerning Drawstrings and Hoods on Children's Clothes China: GB 31701:2015.

The tables in the following pages present mandatory mechanical safety requirements foreseen in the EU, China, Japan, Taiwan and the USA. Conformity with EU requirements covers also **South Korea**.

**The information set forth below is intended as a guide to assist suppliers and does not substitute reference to the standards cited above.**

**Unless otherwise notified by OTB Group, suppliers are currently required to respect all mechanical safety requirements valid in the EU.**

## 2.1.2 GLOSSARY

The following table clarifies some terms used in the document and their definitions.

TERM	DEFINITION
NECK	Head, neck, chest.
WAIST	Chest and waist.
SLEEVES	Right and left sleeve of a garment.
BELOW HIP	The lower end of a garment.
BACK	The back part of a garment or the body.
OTHER PARTS OF GARMENT	In case indications have already been provided for a specific body area or part of a garment, the term "other parts of a garment" refers to additional areas of the body or garments which are not expressly mentioned.
ALL AREAS	These are general requirements in case there are no specifications for a certain body area or part of a garment.

## 2.1.3 SIZE CHART

In the absence of harmonized norms defining children's apparel sizes, the sizes and age groups indicated in the table are those specified in the norms indicated.

For **China and the EU**, sizes are stated in **months or years of age** corresponding to the measurements in cm indicated in the table below.

The **US** norms specify **sizes** only; CPSC guidelines indicate the approximate age to which each size corresponds.

COUNTRY	AGE GROUP		AGE GROUP		AGE GROUP		
	MONTHS	CM	YEARS	CM	YEARS	GENDER	CM
EU KOREA	0-12	≤80 cm	0-6 years	≤134 cm	7-14	males	>134 ≤182
						females	>134 ≤176
	12-36	>80 - ≤98 cm		≤133 cm	7-12	males	>133 ≤169
				females	>133 ≤166		
CHINA	0-12	52 - 80 cm	80 -130 cm	7-14	males	135 - 160	
					females	135 - 155	

USA (CPSC guidelines)	18 months	size 2T	10 years	size 12	14 years	size 16
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## 2.1.4. RISK ELEMENTS

### 2.1.4.1. CORDS AND DRAWSTRING

BODY AREA	AGE GROUP / SIZE	REQUIREMENTS	NORM
<b>1) FUNCTIONAL CORD</b>			
<b>Definition:</b> cords, chains, strings of textile and non-textile material, with or without embellishments such as pompoms, feather, or beads, <u>used to close or fasten a garment or a part of a garment.</u>			
<b>General requirements applicable to all functional cords:</b>			
No knots or three-dimensional embellishments* along the length of the free ends.			
Secure the end, for example by heat sealing or bar tacking, to prevent fraying.			
*from here onwards, three dimensional embellishment is defined as a decorative item attached to a cord that is thicker and/or wider than the cord itself.			
HOOD AND NECK	0-6	NOT PERMITTED 0-6 YEARS.	EN 14682: 2014
	7-14	Not permitted of elastic material. No longer than <b>7.5 cm</b> in length.	
	USA size 12/16	NOT PERMITTED UP TO SIZE 12 as a Federal requirement. NOT PERMITTED UP TO SIZE 16 in the State of Wisconsin.	
BACK	0-14	Functional cords that emerge from the garment back or are designed to be tied at the garment back are not permitted.	EN 14682: 2014

BODY AREA	AGE GROUP / SIZE	REQUIREMENTS	NORM
SLEEVES	0-6	SHORT SLEEVES [above the elbow]: Maximum length <b>7.5 cm</b> measured when the sleeve is open to its largest and laid flat.	EN 14682: 2014
	7-14	SHORT SLEEVES [above the elbow]: Maximum length <b>14 cm</b> when the sleeve is open to its largest and laid flat.	
	0-14	LONG SLEEVES: At lower edge: must not be outside the sleeve when the garment is fastened. Below the elbow: maximum length <b>7.5 cm</b> and must not extend beyond the lower edge.	
WAIST	0-14	For garments worn from the waist down, distinguish between: <b>Close-fitting garments</b> , without shoulder straps, braces, or sleeves, e.g., trousers, shorts, skirts, briefs, bikini bottoms. <b>Other garments</b> : e.g., shirts, coats, dresses, dungarees. <b>Requirements</b> : Maximum length of free ends <b>20 cm</b> for close fitting garments. Maximum length of free ends <b>14 cm</b> for other garments. Functional cords that emerge from the garment back or designed to be tied at the garment back are not permitted.	EN 14682: 2014
	0-14	Maximum length of free ends <b>14 cm</b> , both inside and outside of the garment, included decorative elements.	JIS L 4129:2015
	Up to Size USA 16	Free ends must not protrude more than <b>7.5 cm</b> when the garment is opened at its largest (outerwear such as sweaters, jackets <sup>a</sup> , trousers or skirts <sup>b</sup> ). No knots or three-dimensional embellishments permitted at the end.	ASTM F1816-97 <sup>a</sup> New York General Business Law GBS § 391-b <sup>b</sup>
	0-14	Free ends must not hang below the lower hem when untied.	GB 31701:2015
BELOW HIP	0-14	GARMENTS WITH LOWER EDGE BELOW THE CROTCH: Must not hang below lower edge of garment, including any toggle; At the lower edge, when tightened or fastened, must lie flat against the garment.	EN 14682: 2014
		GARMENTS DESIGNED TO FINISH AT THE ANKLE (overcoats, trousers, skirts etc.) At lower edge: shall not be outside the garment. Stirrups are permitted.	
OTHER PARTS OF GARMENT	0-14	Free ends must not protrude more than <b>14 cm</b> when the garment is opened at its largest and laid flat.	

BODY AREA	AGE GROUP / SIZE	REQUIREMENTS	NORM
<b>2) DECORATIVE CORD</b>			
<b>Definition:</b> cords, chains, strings of textile and non-textile material, with or without embellishments such as pompoms, feathers, beads etc., of fixed length, <u>used exclusively to decorate a garment or accessory.</u>			
HOOD AND NECK	0-6	NOT PERMITTED 0-6 YEARS on the hood and back of the neck. Permitted in other areas of the neck/chest. Maximum length of free ends <b>7.5 cm</b> , without knots, toggles, or other three-dimensional embellishments, and must not be positioned to tie across the throat. Elastic materials not permitted.	EN 14682: 2014
	7-14	Maximum length of free ends <b>7.5 cm</b> , without knots, toggles, or other three-dimensional embellishments. Elastic materials not permitted.	
	0-6	Not permitted.	JIS L 4129:2015
BACK	0-14	Maximum length of free ends <b>7.5 cm</b> , without knots, toggles, or other three-dimensional embellishments.	EN 14682: 2014
	0-14	Not allowed decorative cord that emerges from the back or designed to be knotted on the back.	JIS L 4129:2015



BODY AREA	AGE GROUP / SIZE	REQUIREMENTS	NORM
SLEEVES	0-6	SHORT SLEEVES [above the elbow]: Maximum protruding length <b>7.5 cm</b> measured when the sleeve is open to its largest and laid flat.	EN 14682: 2014
	7-14	SHORT SLEEVES [above the elbow]: Maximum protruding length <b>14 cm</b> when the sleeve is open to its largest and laid; Flat.	
	0-14	LONG SLEEVES: At lower edge: must not be outside the sleeve when the garment is fastened. Below the elbow: maximum length <b>7.5 cm</b> and must not extend beyond the cuff.	
	0-14	Cords must not be outside the sleeve and must be fastened by seam or other methods that prevent from easy loosen.	JIS L 4129:2015
	0-14	The cords must not be outside the sleeve.	GB 31701:2015
WAIST	0-14	<u>For garments worn from the waist down, distinguish between:</u> <b>Close-fitting garments</b> , without shoulder straps, braces or sleeves, e.g., trousers, skirts, briefs, bikini bottoms. <b>Other garments:</b> e.g., shirts, coats, dresses, dungarees. <b>Requirements:</b> Maximum length of free ends <b>14 cm</b> for <b>close fitting garments</b> and <b>other garments</b> , including any embellishments.	EN 14682: 2014
	0-14	Free ends must not hang below the lower hem when untied.	GB 31701:2015
	0-14	Maximum length of free ends <b>14 cm</b> , both inside and outside of the garment, included decorative elements.	JIS L 4129:2015
BELOW HIP	0-14	GARMENTS WITH LOWER EDGE BELOW THE CROTCH: Must not hang below lower edge of garment, including any toggle. At the lower edge, when tightened or fastened, must lie flat against the garment.	EN 14682: 2014
		GARMENT DESIGNED TO FINISH AT THE ANKLE (overcoats, trousers, skirts etc.) At lower edge: must not be outside the garment. Stirrups are permitted.	
OTHER PARTS OF GARMENT	0-14	Maximum length of free ends <b>14 cm</b> when garment is opened at its largest and laid flat.	
<b>3) DRAWSTRING</b> <b>Definition:</b> cords, chains, strings of textile and non-textile material, with or without embellishments such as pompoms, feathers, beads etc., <u>that pass through a channel or loop</u> , used <u>to close or fasten</u> a garment or part of a garment. <b>General requirements applicable to all drawstrings:</b> No knots or three-dimensional embellishments at the free ends. Secure the end, for example by heat sealing or bar tacking, to prevent fraying. Where allowed, drawstrings must be secured to the garment at least in one place, e.g., by sewing, in an equidistant position from the exit points. Toggles are permitted only on drawstrings without free ends.			
NECK	0-6	NOT PERMITTED 0-6 YEARS	EN 14682: 2014
	7-14	With garment laid flat and open at its largest, no protruding loops permitted. With garment open at intended size, maximum circumference of protruding loop <b>15 cm</b> . No free ends permitted. Toggles on drawstrings without free ends must be secured to the garment.	
	7-14	With garment laid flat and open at its largest, no protruding loops permitted. Toggles on drawstrings without free ends must be secured to the garment.	CNS 15291:2019
	Up to US size 12/16	NOT PERMITTED UP TO SIZE 12 as a Federal requirement. NOT PERMITTED UP TO SIZE 16 in the State of Wisconsin.	ASTM F1816-97 Wisconsin ATCP 139
BACK	0-14	Drawstrings that emerge from the garment back or designed to be tied at the garment back are NOT PERMITTED.	EN 14682: 2014
SLEEVES	0-6	SHORT SLEEVES [above elbow]: Maximum protruding length <b>7.5 cm</b> when the sleeve is open to its largest and laid flat.	

BODY AREA	AGE GROUP / SIZE	REQUIREMENTS	NORM
	7-14	SHORT SLEEVES [above elbow] Maximum protruding length <b>14 cm</b> when the sleeve is open to its largest and laid flat.	
	0-14	LONG SLEEVES: At lower edge: must not be outside the sleeve when the garment is fastened. Below the elbow: maximum length of free ends <b>7.5 cm</b> and must not extend beyond the cuff.	
WAIST	0-14	For garments worn from the waist down, distinguish between: <b>Close fitting garments by nature or function</b> , without shoulder straps, braces, or sleeves, e.g.: trousers, shorts, skirts, slips, bikini slips. <b>Other garments:</b> shirts, coats, dresses, overalls. DRAWSTRINGS WITH FREE ENDS: Maximum length of free ends <b>20 cm</b> for <b>close fitting garments</b> when garment is closed to intended size. Maximum length of free ends <b>14 cm</b> for <b>other garments</b> when garment is opened at its largest and laid flat. DRAWSTRINGS WITH NO FREE ENDS (CONTINUOUS LOOP): No protruding loops for <b>close fitting garments</b> and <b>other garments</b> when garment is opened at its largest and laid flat. Toggles on drawstrings without free ends must be secured to the garment.	EN 14682: 2014
	0-14	Maximum length of free ends <b>20 cm</b> for <b>close fitting garments</b> -. Maximum length of free ends <b>14 cm</b> for <b>other garments</b> .	CNS 15291:2019
	0-14	Maximum length of free ends <b>14 cm</b> , when garment is opened at its largest. Drawstrings with no free ends: with garment open at intended size, maximum circumference of protruding loop <b>28 cm</b> . Toggles on drawstrings without free ends must be secured to the garment.	JIS L 4129:2015
	Up To Us Size 16	Secure drawstring e.g., with a bar tack in at least one point equidistant from exit point. Free ends must not protrude more than <b>7.5 cm</b> when garment opened at its largest. (Outerwear such as sweaters, jackets <sup>c</sup> , trousers or skirts <sup>d</sup> ). No knots or three-dimensional embellishments permitted at the end.	ASTM F1816-97 <sup>c</sup> Stato di New York <sup>d</sup>
	0-14	Free ends must not hang below the lower hem when untied.	GB 31701:2015
	BELOW HIP	0-14	GARMENTS WITH LOWER EDGE BELOW THE CROTCH: Must not hang below lower edge of garment, including any toggle. At lower edge, when tightened or fastened, must lie flat against garment.
GARMENTS DESIGNED TO FINISH AT THE ANKLE (overcoats, trousers, skirts etc.) At lower edge: must not be outside the garment. Stirrups are permitted.			
OTHER PARTS OF GARMENT	0-14	Maximum protruding length <b>14 cm</b> when the garment is opened at its largest and laid flat.	
<b>4) TIE BELTS/SASHES</b>			
<b>Definition:</b> drawstrings, decorative or functional cords of textile material, no less than <b>3 cm</b> wide, <u> tied </u> around the waist of garments; may or may not encircle the whole body.			
<b>General requirements applicable to all tie belts/sashes:</b>			
No less than <b>3 cm</b> wide (otherwise it falls within the definition of functional cord or drawstring).			
No knots or three-dimensional embellishments at the free ends.			
Secure the end, for example by heat sealing or bar tacking, to prevent fraying.			
BACK	0-6	When untied and measured from point at which intended to be tied, maximum length of free ends <b>36 cm</b> and free ends must not hang below lower edge of the garment.	EN 14682: 2014
	7-14	When untied and measured from point at which intended to be tied, maximum length of free ends <b>36 cm</b> .	
WAIST	0-6	BACK OF THE BODY When untied and measured from point at which intended to be tied, maximum length of free ends <b>36 cm</b> and free ends must not hang below lower edge of the garment.	

BODY AREA	AGE GROUP / SIZE	REQUIREMENTS	NORM
	7-14	BACK OF THE BODY When untied and measured from point at which intended to be tied, maximum length of free ends <b>36 cm</b> .	
	0-14	FRONT/SIDES OF THE BODY When untied and measured from point at which intended to be tied, maximum length of free ends <b>36 cm</b> .	
	0-14	Free ends must not hang below the lower hem when untied.	GB 31701:2015
<b>5) ADJUSTING TAB/SHOULDER TAB/EPAULETTE</b>			
<b>Definition:</b> strip of fabric no less than <b>2 cm</b> wide used to adjust the size of a garment opening, for example on a sleeve or at the ankle.			
NECK	0-14	Maximum length <b>7.5 cm</b> . No buttons, toggles or buckles permitted on free ends.	EN 14682: 2014 CNS 15291:2019
SLEEVES	0-14	SHORT [above elbow] AND LONG SLEEVES [below elbow]: Must not hang below hem of garment when open. Maximum length <b>10 cm</b> .	EN 14682: 2014
BACK	0-14	Maximum length <b>7.5 cm</b> . Must not hang below lower edge of garment. Buttons, toggles, or buckles that may present a risk not permitted on free ends.	EN 14682: 2014
WAIST	0-14	Maximum length <b>14 cm</b> .	EN 14682: 2014
	Up to USA size 16	Free ends must not protrude more than <b>7.5 cm</b> when garment opened at its largest. No knots or three-dimensional embellishments at the end if it corresponds to the definition of drawstring.	ASTM F1816-97
	0-14	Free ends must not hang below the lower hem when untied.	GB 31701:2015
BELOW HIP	0-14	Maximum length <b>14 cm</b> . Must not hang below lower edge of garment. Buttons, toggles, or buckles that may present a risk are not permitted on free ends.	EN 14682: 2014
		If arranged horizontally, maximum length of adjusting tabs is <b>10 cm</b> .	JIS L 4129:2015
<b>6) FLAT LOOPS/FIXED LOOPS/BOWS</b>			
<b>Definition:</b> any type of fabric, knitted or other textile loop attached to and protruding from a garment (e.g., loop part of bow). <u>The circumference is measured.</u>			
ALL	0-14	Fixed loops that protrude from the garment no more than <b>7.5 cm</b> in circumference.	EN 14682: 2014
	0-14	Hanger loops permitted inside the garment, following adequate risk assessment	EN 14682: 2014
	0-14	Free ends that protrude from the garment no more than <b>7.5 cm</b> in circumference.	GB 31701:20
<b>7) FLAT LOOP/BELT LOOP</b>			
<b>Definition:</b> a ring formed by sewing a strip of fabric to a garment (e.g., belt loops). <u>Length measured between stitching.</u>			
ALL	0-14	Flat loops/belt loops: maximum length <b>7.5 cm</b> between points of attachment to the garment.	EN 14682: 2014
<b>8) ZIP PULLER</b>			
ALL	0-14	Zip puller must not hang below lower edge of garment. No more than 7.5 cm in length.	EN 14682: 2014
<b>9) SHOULDER STRAP</b>			
<b>Definition:</b>			
SHOULDER STRAP: cord, chain, ribbon, string, of any textile or non-textile material, including elastic material which connects the front and back of the garment, that passes over the shoulders or around the neck in the case of round neck straps (e.g., a bikini).			
HALTER NECK: cord, chain, ribbon, string, of any textile or non-textile material, including elastic material, worn round the back of the neck, holding the garment top (e.g. dress, blouse, bikini) leaving the shoulders and the back bare.			
<b>General requirements applicable to all shoulder straps and halter necks:</b>			
May be made of elastic material.			

BODY AREA	AGE GROUP / SIZE	REQUIREMENTS	NORM
NECK	0-6	<b>Shoulder straps:</b> No free ends permitted external to the garment. Decorative cords are permitted with maximum length of free ends <b>7.5 cm</b> . May be permanently fixed to garment front and back or attached to permit adjustment of strap length by e.g., buttons, press fasteners, provided free end is inside garment.	CEN/TR 16792:2014 EN 14682:2014
	0-6	Must be permanently fixed to garment front and back, to avoid free ends.	JIS L 4129:2015
	0-14	<b>Shoulder straps:</b> Fixed loops permitted with maximum circumference <b>7.5 cm</b> . <b>Halter necks:</b> No free ends permitted on halter neck-style garments in the neck and throat area. On halter necks use of a clip or fastening of two cords is permitted, provided no free ends result when garment is worn. <b>Both:</b> Use of e.g., ring and slider to adjust shoulder strap length, provided loop lies flat to body when worn (and general requirement for flat loops does not apply provided loop lies flat to body).	CEN/TR 16792:2014 EN 14682:2014
	7-14	<b>Shoulder straps:</b> Maximum length of free ends <b>14 cm</b> from point at which they are intended to be tied.	
	0-14	<b>Halter necks:</b> No free ends permitted on halter neck-style garments on the external side of the garment. On halter necks use of a clip or fastening of two cords is permitted, provided no free ends result when garment is worn.	CNS 15291:2019

#### 2.1.4.2. DETACHABLE ELEMENTS

BODY AREA	AGE GROUP / SIZE	REQUIREMENTS	NORM
<b>10) DETACHABLE SMALL PARTS</b>			
ALL AREAS	0-36 M	Must remain securely attached: <b>Grippable (except sequins)</b> Largest grippable dimension $\geq 6$ mm for each side: 70 N. Largest grippable dimension $> 3$ mm and $< 6$ mm for each side: 50 N. Largest grippable dimension $\leq 3$ mm: negligible change following aggressive laundering process. <b>Non grippable</b> (including sequins, heat fused or glued components, plastic sleeving on ends of cords or laces): Negligible change following aggressive laundering process.	CEN/TR 16792:2014 UNE 40902:2022
		Small parts of textile material: negligible change following aggressive laundering process.	
<b>11) BUTTONS</b>			

BODY AREA	AGE GROUP / SIZE	REQUIREMENTS	NORM
ALL AREAS	0-14	Use only buttons conforming to mechanical tests on mechanical requirements detailed in the norms on the right. Food-imitating buttons are not permitted. Use buttons without sharp edges. <b>Press studs or multi component buttons:</b> Do not use post-type fasteners on knitted fabrics as they may pull through and become detached. Do not attach buttons to seams or uneven areas as they may become detached. Use a size of button compatible with the thickness of the base fabric. Use buttons and fasteners compatible with needle detectors.	CEN/TR 16792:2014 UNE 40902:2022
	0-3	The following must not be produced after normal use and abuse testing (16 CFR 1500.50-53): a) small parts on products intended for children up to 3 years (16 CFR 1501)	16 CFR 1500 e 1501
	0-8	b) sharp points and sharp edges on products intended for children up to 8 years (16 CFR 1500.48 and 49).	
<b>12) SEQUINS, BEADS, RHINESTONES, DIAMANTS ETC.</b>			
ALL AREAS	0-3	Attach with at least 3 machine-sewn secure stitches. Hand sewing and chain stitching are not recommended. Sequins must be stitched flat; hand-sewn beads of sequins should be locked off after every 10th stitch.	CEN/TR 16792:2014
		Must remain securely attached. <b>Grippable (except sequins)</b> Largest grippable dimension $\geq$ 6 mm for each side: 70 N. Largest grippable dimension $>$ 3mm and $<$ 6mm for each side: 50 N. Largest grippable dimension $\leq$ 3 mm: negligible change following aggressive laundering process. <b>Non grippable</b> (including sequins, heat fused or glued components, plastic sleeving on ends of cords or laces): Negligible change following aggressive laundering process.	GB 31701:2015
	0-3	The following must not be produced after normal use and abuse testing (16 CFR 1500.50-53): a) small parts on products intended for children up to 3 years (16 CFR 1501)	16 CFR 1500 e 1501
	0-8	b) sharp points and sharp edges on products intended for children up to 8 years (16 CFR 1500.48 and 49).	
<b>13) SHARP EDGE: ENTRY, STUD, PIN, BROOCH ETC.</b>			
ALL AREAS	0-36 M	No sharp points or sharp edges.	UNE 40902
	0-14	No sharp points or sharp edges.	CEN/TR 16792: 2014
	0-3	The following must not be produced after normal use and abuse testing (16 CFR 1500.50-53): a) small parts on products intended for children up to 3 years (16 CFR 1501)	16 CFR 1500 e 1501
		0-8	
<b>14) POMPOM, RIBBON, BOW, ETC.</b>			
ALL AREAS	0-3	Pompoms and tassels made of cut threads are not permitted as the threads may easily become detached.	CEN/TR 16792:2014
	0-3	The following must not be produced after normal use and abuse testing (16 CFR 1500.50-53): a) small parts on products intended for children up to 3 years (16 CFR 1501)	16 CFR 1500 e 1501
		0-8	
<b>15) AGLETS ON SHOELACES, CORDSTRINGS ETC.H</b>			
ALL AREAS	0-14	Minimum attachment strength of aglets 100 N. Test method GB/T 22704 annex D.	GB/T 22704:2019

### 2.1.4.3. OTHER DESIGN RELATED RISKS

BODY AREA	AGE GROUP / SIZE	REQUIREMENTS	NORM
<b>16) HOOD</b>			
NECK	0-12 M	Assess the use of interlining 0-12 months to reduce the risk of suffocation. Ensure that hoods are shallow and do not entirely cover the face.	CEN/TR 16792:2014
	1-14	Assess risk of hood restricting hearing or vision (especially children undertaking activities without adult supervision).	
	1-14	On outerwear, size >80cm ≤170 cm, all hoods must be detachable (e.g., fixed with touch and close fasteners, zips not permitted).	Swedish Consumer Agency
	0-3	Not permitted in nightwear.	GB/T 1553.5
<b>17) ZIP</b>			
WAIST	0-5	In garments intended for boys < 5 years, use of alternative fasteners (touch and close fasteners, elasticated waists etc.) recommended. All zips used in boys' trousers should have plastic elements and a zip guard at least <b>2 cm</b> wide secured by stitching across the fly opening to avoid penis entrapment.	CEN/TR 16792:2014
BELOW HIP	0-14	Zip puller must not extend beyond the lower hem.	EN 14682: 2014
ALL AREAS	0-14	No longer than <b>7.5 cm</b> in length from zip slider	
DESIGN	0-14	If it is foreseeable that zips will come into skin contact, use plastic zips with no sharp edges. In the neck area, use fabric zip guards. All zips used in boys' trousers should have plastic elements and a zip guard at least <b>2 cm</b> wide secured by stitching to avoid the risk of entrapment.	CEN/TR 16792:2014
ALL AREAS	0-3	The following must not be produced after normal use and abuse testing (16 CFR 1500.50-53): a) small parts on products intended for children up to 3 years (16 CFR 1501)	16 CFR 1500 e 1501
	0-8	b) sharp points and sharp edges on products intended for children up to 8 years (16 CFR 1500.48 and 49).	
<b>18) WARM APPLICATIONS</b>			
DESIGN	0-14	CAUTION Attachment varies in relation to: a) the fabric surface (raised, e.g., velour, felt, corduroy, velvet etc.) b) the elasticity of the fabric c) special finishes (e.g., stain repellent) d) garment construction. No sharp points and sharp edges permitted.	CEN/TR 16792:2014
<b>19) EMBROIDERY/APPLIQUÉ</b>			
DESIGN	0-14	Verify that stitch density cannot cause element to become detached. Verify that elements cannot be degraded by exposure to heat, laundering, detergents etc. Verify that back of stitching does not rub against skin and use interlining or panel where there is risk of abrasion. No monofilament yarn permitted.	CEN/TR 16792:2014
<b>20) SEWING THREAD-YARN/FLOATING STITCHES</b>			
SLEEVES	0-12 M	No jacquard fabrics with floating stitches longer than <b>10 mm</b> in the hand or foot area of garments intended for children < 12 months (risk of ischaemic injury).	CEN/TR 16792:2014
	0-14	Trim thread ends to no longer 10 mm in hand and foot area. Do not use monofilament sewing threads to avoid risk of ischaemic injury or skin abrasion.	
<b>21) STONEWASH</b>			
DESIGN	0-36 mesi	Any stones or residues left in pockets of garments intended to children < 36 months present choking hazard, so alternative processes are recommended for this age group (e.g., enzyme washing).	CEN/TR 16792:2014

BODY AREA	AGE GROUP / SIZE	REQUIREMENTS	NORM
<b>22) MAGNET</b>			
ALL AREAS	0-14	Not permitted.	CEN/TR 16792:2014
<b>23) CUFF – ELASTICATED</b>			
ALL AREAS	0-14	Must not be too tight (risk of restricted blood flow to hands or feet).	CEN/TR 16792:2014
<b>24) MEN'S SWIMWEAR MESH</b>			
WAIST	0-14	Risk of genital trapping into mesh has to be evaluated.	CEN/TR 16792:2014
<b>25) VELCRO/TOUCH AND CLOSE FASTENER</b>			
DESIGN	0-14	The hook component should be directed away from the skin to avoid the risk of skin abrasion. Use dye-cut touch and close fasteners with rounded edges to avoid risk of skin abrasion.	CEN/TR 16792:2014
<b>26) HANGER LOOP</b>			
NECK AND WAIST	0-14	Hanger loops shall be sewn-in weakly so as to break if trapped. Functional or informative labels should be risk assessed to exclude any hazards.	CEN/TR 16792:2014
<b>27) PERMANENT LABEL</b>			
TIGHT FITTING GARMENTS	0-36	Permanent label sewed in tight fitting garments for infants shall be placed at the position which does not directly contact skin.	GB 31701: 2015

## 2.2 PHYSICAL SAFETY

### 2.2.1 FLAMMABILITY

#### 2.2.1.1 Flammability USA

**Mandatory for:** all adult and children's clothing (excluding sleepwear for children).

**Mandatory certification:** for children only. Issued by a notified body (CPSC approved laboratory).

**Test:** the test is to be performed on either the fabrics (before cutting and sewing) or the finished garment.

**Exceptions:** the standard does not apply to the following items:

- hats
- gloves (not longer than 14 inches ~ 35,6 cm)
- footwear
- interlinings.

Additionally, the following are **exempt from flammability testing (but subject to certification)**:

- textiles with a plain surface superior to 2.6 ounces per square yard (~88 g/m<sup>2</sup>). **NB:** carefully assess the effective textile weight.
- textiles either with a plain or raised surface, obtained totally or with a combination of the following fibers, regardless of weight: acrylic, modacrylic, nylon, olefin, polyester, wool.

**Requirements:** The method provides for 3 flammability classes determined by their burning time:

- Class 1 = normal flammability
- Class 2 = intermediate flammability
- Class 3 = rapid and intense flammability.

CLASS	PLAIN SURFACE TEXTILE FABRICS (*)	RAISED SURFACE TEXTILE FABRICS (**)
<b>1: ACCEPTABLE</b>	Flame spread is 3.5 seconds or more (127 mm fabric sample)	Flame spread is greater than 7.0 seconds or (2) Flame spread is 0–7 seconds with no base burns. Exhibits rapid surface flash only
<b>2: ACCEPTABLE</b>	Not applicable	Flame spread is 4–7 seconds (inclusive) with base burn
<b>3: NOT ACCEPTABLE</b>	Flame spread is less than 3.5 seconds (127 mm fabric sample)	Flame spread is less than 4.0 seconds with base burn (127 mm fabric sample)

(\*) *without fibers or yarns in relief*

(\*\*) *with fibers or yarns in relief*

#### 16 CFR 1611 standard for the flammability of vinyl plastic films

**Mandatory for:** textile base with plastic film coating ≤ 0.254 mm used in the manufacture of adult and children apparel.

**Mandatory certification:** yes, accredited CPSC laboratory.

**Requirements:** Plastic films used in the manufacture of apparel with a thickness of ≤ 0.254 mm; textile base with plastic film coating (test 16 CFR 1610 on textile base) → Flame spread < 3 cm / sec.

#### CFR 1615 e 16 CFR 1616 standard for the flammability of children's sleepwear<sup>1</sup> (sizes 9 months – 6 and 7-14 years)

**Mandatory certification:** yes, accepted testing laboratory CPSC.

**Requirements:** Children's sleepwear must be:

- flame resistant and self-extinguishing based on laboratory tests; or
- tight fitting and in compliance with standards 16 CFR 1610 and 16 CFR 1611.

<sup>1</sup> Any apparel garment designed for sleeping or similar activities, such as pyjama, nightgowns, dressing gowns or bathrobes.



**Tight-fitting** garment means a garment which:

- does not exceed the maximum dimensions (chest, waist, seat, upper arm, thigh, wrist, or ankle) specified by the standard
- has no item of fabric, ornamentation or trim, which extends more than 0.635 cm (1/4 inch)
- has sleeves which diminish in width gradually from the top of the shoulder to the wrist
- has legs which diminish gradually in width between the thigh and the ankle
- in the case of a one-piece garment, has a width which diminish gradually from the chest to the waist, and from the seat to the waist
- in the case of a two-piece garment, has an upper piece with a width which diminish gradually from the chest to the bottom of that piece; in the case of an upper piece with fastenings, have the lowest fastening within 15.2 centimeters of the bottom of that piece
- bears a label stating the size of the garment
- bears a label stating that the garment is not flame resistant and must be worn tightly since loose-fitting garments are more likely to catch fire.

For child's safety, garment should fit snugly. This garment is not flame resistant. Loose-fitting garment is more likely to catch fire

## 2.2.1.2 Flammability European Union and United Kingdom

### EUROPEAN UNION

#### Adults

This section summarizes the flammability requirements for **adults' daywear clothing** in EU.

In the absence of harmonized standards, reference is made to the **single markets' rules**. Producers are always liable for the general safety of products.

	NORM	LIMIT
<b>NETHERLANDS</b>	<b>VWA STANDARD</b> [TEST METHOD ASTM D1230]	127 mm ≥ 4 sec
<b>NORWAY</b>	<b>DIRECTIVE ON PROHIBITION OF HIGHLY FLAMMABLE TEXTILES NR 427, 13/02/1984</b> [TEST METHOD ASTM D1230]	127 mm ≥ 5 sec
<b>SWEDEN</b>	<b>KOVFS 1985:5</b> <i>(Abrogated but recommended)</i>	127 mm ≥ 5 sec
<b>SWITZERLAND</b>	<b>VERORDNUNG RS 817.023.41; Section 5; Article 16 et seq</b> <b>Modified by the ordinance of 26 November 2008</b> [TEST METHOD EN 1103]	a) textiles must be cut and assembled in such a way as not to present any excessive risk of flammability or combustibility. b) garments and yarns for the manufacture of garments must be assembled in such a way as to prevent any surface flash without burning the base.
<b>ALL OTHER COUNTRIES</b>	<i>No other technical standards. However, Directive 2001/95/CE establish labeling requirements as to inform the consumer about the burning behavior of garments. The simplest labeling solution is to insert the following warning on the labels of all garments "KEEP AWAY FROM FIRE" in all the official languages.</i>	

#### Children

For textiles used in **sleepwear**, the **technical standard EN 14878** regulates the flammability of garments intended for children within all EU countries.

In certain countries, there are **national norms** (see tables in the following pages).

COUNTRY	NORM	LIMIT
<b>NETHERLANDS</b>	EN 14878.	(See details below "EN 14878 2007: textiles – children sleepwear fire behaviour").
<b>NORWAY</b>	DIRECTIVE ON PROHIBITION OF HIGHLY FLAMMABLE TEXTILES NR 427, 13/02/1984 [TEST METHOD ASTM D1230].	127 mm ≥ 7 sec.
<b>SWEDEN</b>	EN 14878.	(See details below "EN 14878 2007: textiles – children sleepwear fire behaviour").
<b>SWITZERLAND</b>	VERORDNUNG RS 817.023.41; Section 5; Article 16 et seq Modified by the ordinance of 26 November 2008 [TEST METHOD EN 1103].	- <b>fire behavior:</b> Textiles must be cut and assembled in such a way as not to present any excessive risk of flammability or combustibility. - <b>surface flash:</b> Garments and yarns for the manufacture of garments must be assembled in such a way as to prevent any surface flash without burning the base.

COUNTRY	NORM	LIMIT
UNITED KINGDOM	NIGHTWEAR SAFETY REGULATION, 1985.	300 mm in 25 sec and 600 mm in 50 sec. - <b>Included articles:</b> sleepwear intended for children from > 3 months to > 13 years with the following dimensions: <ul style="list-style-type: none"> <li>o nightgowns: chest &lt;91 cm; length &lt; 122 cm</li> <li>o negligees, bathrobes and similar chest &lt;97 cm, and sleeve length &lt;69 cm.</li> </ul> - <b>Excluded articles:</b> sleepwear entirely made (seams, finishes and seals included) of synthetic material that, when in contact with the fire, melts without decomposition. Mandatory labeling: see details below "UNITED KINGDOM AND NORTHERN IRELAND".
NORTHERN IRELAND	I.S. 148 FLAMMABILITY AND LABELLING REQUIREMENTS OF FABRICS AND FABRIC ASSEMBLIES USED IN CHILDREN'S NIGHTWEAR.	The requirements are the same as those in force in the United Kingdom (see details below "UNITED KINGDOM AND NORTHERN IRELAND").
ALL OTHER COUNTRIES	EN 14878.	(See details below "EN 14878 2007: textiles – children sleepwear fire behaviour").

### EN 14878 2007: textiles – children sleepwear fire behaviour

The uniform standard EN 14878 is applicable **in all EU countries that do not have specific norms.**

**Included articles:** all clothing sold as nightwear or intended to be worn as nightwear. For example, bathrobes, dressing gowns, pyjamas, nightgowns.

**Excluded articles:** newborn clothing<sup>2</sup>.

**Test method:** EN 1103:2005 (without washing procedure). Either the fabrics (prior to cutting and sewing) or the finished garment must be tested. Excludes sewing threads and decorative parts.

### FLAMMABILITY REQUIREMENTS EN 14878

CLASS	APPLICATION	PARAMETERS TO BE EVALUATED	MINIMUM REQUIREMENTS
A	Children's sleepwear (not pyjamas).	Surface flash. Time of flame spread.	No surface flash. 3rd marker thread (52 cm): > 15 seconds
B	Children's pyjamas if they meet the design features specified in the standard <sup>3</sup> . Otherwise, they must comply with the Class A.		No surface flash. 3rd marker thread (52 cm): > 10 seconds.
C	Newborn sleepwear.	Not tested.	None.

### LABELLING REQUIREMENTS

The standard does not impose labeling requirements, but it is possible to affix a label to the garment to indicate to the consumer the class of fabric from which the garment was obtained.

The label, if provided, must contain the following information.

**WARNING Keep away from sources of heat [in red]**  
**Fabric Class A, B, C (as appropriate)**  
**EN 14878**

<sup>2</sup> **Newborns:** < 6 months and < 68 cm.

<sup>3</sup> **Design characteristics:**

*Pyjama tops or jackets:* Pyjama tops or jackets shall not have a lower hem circumference greater than the hip size it is designed to fit +20% and shall be designed to have a lower hem no more than 10 cm below the crotch.

*Pyjama trousers:* Pyjama trouser legs shall not be wider at the lower hem than the knee

*Sleeve cuffs for pyjamas:* Where the sleeve is designed to finish below the elbow, the lower hem shall not have a circumference greater than 40 cm and at no point shall the circumference of the sleeve width be greater than 50 cm.

**Warning:** if any design features have an impact on the burning behaviour of a garment, modify such features to reduce any risks.

## NETHERLANDS DAYWEAR (VWA STANDARDS).

### Requirements:

- flame spread: 127 mm in  $\geq 4$  seconds
- test method: ASTM D1230 (sample orientation 45°)
- flame applied for 1 second.

The following fabrics are **exempt from testing** owing to their well-known burning behaviour:

- plain surface textiles weighing  $\geq 88$  g/m<sup>2</sup>. Carefully check effective fabric weight.
- plain and raised surface textiles composed of one or more of the following fabrics, regardless of weight: acrylic, modacrylic, nylon, olefine, polyester, wool.

The following articles are **out of scope** of flammability requirements:

- swimwear
- hosiery
- intimates
- articles for newborns (< 80 cm)
- interlinings.

## UNITED KINGDOM AND NORTHERN IRELAND

The two countries present very similar legislative instruments:

- **United Kingdom:** Nightwear Safety Regulation, 1985 (BS 5722)
- **Northern Ireland:** Flammability and Labeling Requirements of Fabrics and Assemblies used in Children's Nightwear (I.S. 148)

These norms establish **labeling requirements** as to inform the consumer about the burning behaviour of garments (see below).

Additionally, the instructions reported on the labels must also appear in **advertisements or product presentations** in traditional mail order catalogues or e-commerce websites (see Section 3.2).

The simplest labeling solution is to insert the following warning on the labels of all nightwear garments **"KEEP AWAY FROM FIRE"**.



TYPE OF ARTICLE	NIGHTDRESSES AND DRESSING GOWNS	PYJAMAS AND COTTON TERRY BATHROBES	ARTICLES TREATED WITH FLAME RETARDANTS
<b>CONFORMITY REQUIREMENTS</b>	Must conform to flammability requirements as specified in BS 5722 /I.S. 148	Conformity to BS 5722/I.S. 148 not mandatory but they must still conform to EN 14878	
<b>LABELING REQUIREMENTS</b>  (for nightdresses and dressing gowns 3 options are provided: A, B, C)	<b>OPTION A:</b> "LOW FLAMMABILITY TO BS 5722" (United Kingdom) "LOW FLAMMABILITY TO I.S. 148" (Northern Ireland) <b>OPTION B</b> "KEEP AWAY FROM FIRE" <b>OPTION C:</b> Both warnings.	"KEEP AWAY FROM FIRE".	"DO NOT WASH AT MORE THAN 50°C. CHECK SUITABILITY OF WASHING AGENT.
<b>FONT CHARACTERISTICS</b>	<b>OPTION A:</b> in black, capital letters, font size 10. <b>OPTION B:</b> in red, capital letters, font size 10.	in red capital letters font size 10.	in black capital letters font size 6.
<b>LABEL POSITION</b>	The warnings shall appear on a clearly readable label, securely fixed to the garment: - Inside, at the neck <u>or</u> - Immediately adjacent to the label that shows the size of the garment <u>or</u> - on the same label that shows the size of the garment, just below the indication of the size.		

In advertisements or product presentations in mail order catalogues, e-commerce websites etc., the information on the burning behaviour of garments indicated on labels must appear in the advertisements and product presentations.

The **phrases** provided may be replaced by **symbols**, with the characteristics shown in the table below (it is not permitted to use both phrases and symbols).


Where symbols are used, it is necessary to explain their meaning, if necessary, through a reference to another page or section.

## SPECIFIC LABELING FOR ADVERTISING AND PRODUCT PRESENTATION

PHRASE	SYMBOL	SIZE AND CHARACTERISTICS
KEEP AWAY FROM FIRE		<b>equilateral triangle, red sides:</b> ≥ 10 mm each side. <b>black letters:</b> font size ≥ 2
LOW FLAMMABILITY TO BS 5722 (UK) or LOW FLAMMABILITY TO I.S. 148 (Northern Ireland)		<b>green sides:</b> ≥ 8 x 6 mm <b>black letters:</b> font size ≥ 4

### 2.2.1.3 Flammability South Korea

The following symbol must appear on a readable label when the risk evaluation shows a specific critical issue.

SYMBOL	DESCRIPTION	TRANSLATION
	불꽃 접근시 불길이 옮겨 붙을 가능성이 있음	Keep away from fire

### 2.2.1.4 Flammability China

According to GB 31701:2015 flammability requirements are **mandatory for**: all textile clothing for 0-14 years old children.

**Tests:** all external layers are tested

**Exceptions:** the standard does not apply to the following items:

- bags
- backpacks
- umbrellas
- technic sports clothes.

Additionally, the following are **exempt from flammability testing** (but subject to certification):

- textiles with a weight superior to 90 g/m<sup>2</sup>
- plain and raised surface textiles composed of one or more of the following fabrics, regardless of weight: acrylic, modacrylic, nylon, olefine, polyester, wool.

**Requirements:** the test method specifies class 1 flammability, determined according to burning time.

**Test method:** GB/T 14644 Textiles Burning Behaviour.

### 2.2.1.5 Flammability Canada

#### Adults

The regulation SOR/2016-194 Textile flammability regulations, gives provisions regarding minimum flame spread times for textile products:

- the flame spread time for textile products without a raised fibre surface must be greater than 3.5 seconds
- the flame spread time for textile products with a raised fibre surface that exhibits ignition or fusion of its base fibres must be greater than 4 seconds.

Flame spread time must be determined according to the standard CAN/CGSB-4.2 No.27.5 Textile Test Methods: Flame Resistance - 45° Angle Test - One-Second Flame Impingement.

## Children

The regulation SOR / 2016-169 Children's Sleepwear regulations give provisions regarding the flammability for home and children's clothing. The standard distinguishes between two categories of clothing: loose-fitting sleepwear<sup>4</sup> and tight-fitting sleepwear<sup>5</sup>, for which there are separate requirements:

### A. TIGHT-FITTING SLEEPWEAR REQUIREMENTS:

Flame spread must be greater than seven seconds. Flame spread time should be in accordance with standard CAN/CGSB-4.2 No.27.5 Textile Test Methods: Flame Resistance - 45° Angle Test - One-Second Flame Impingement.

### B. LOOSE-FITTING SLEEPWEAR REQUIREMENTS:

Must have:

- an average char length<sup>6</sup> for five specimens that does not exceed 178 mm
- not more than one specimen with a char length<sup>7</sup> equal to the full length of the specimen.

Test method is described in SOR/2016-169 Annex 1.

In addition, garments treated with flame retardants must undergo toxicity tests in order to exclude the presence of toxic elements that can lead to erythema formation, edema formation, gene mutation, chromosomal aberration and cancer. For further details, see SOR / 2016-169 Annex 2.

Presence of flame retardant must be declared on a label that is permanently affixed to garments that displays in a clear and legible manner the words "flame retardant" and "ignifugeant"; moreover, label must contain instructions for the care of the sleepwear, particularly cleaning procedures, to ensure that it is not exposed to agents or treatments that could reduce its flame resistance.

**SOR/2016-194 Textile flammability regulations**, provides instruction on flame spread times for textile products:

- the flame spread time for textile products without a raised fibre surface must be greater than 3.5 seconds
- the flame spread time for textile products with a raised fibre surface that exhibits ignition or fusion of its base fibres must be greater than 4 seconds.

The flame spread time must be determined according to the standard CAN/CGSB-4.2 No. 27.5, Textile Test Methods: Flame Resistance — 45° Angle Test — One-Second Flame Impingement.

## 2.2.1.6 Flammability Australia

According to Consumer Goods (Children's Nightwear and Limited Daywear and Paper Patterns for Children's Nightwear) Safety Standard some flammability requirements the following children nightwear products are provided (size 00-14 according to AS 1182):

- pyjamas
- size 3 - 14 knitted nightwear all-in-ones
- size 00 - 14 woven nightwear all-in-ones
- nightdresses and nighties
- nightshirts
- dressing gowns
- bathrobes
- boxer shorts of a loose style commonly used as nightwear
- infant sleep bags with sleeves or arm openings
- blankets & towels that incorporate a sleeve or arm opening.

### Requirements

To ensure compliance with Consumer Goods Safety Standard it is mandatory to apply AS/NZS 1249:2014, which states flame propagation times, test methods and specific requirements for design.

Nightwear for children (and some daywear) is classified into one of four categories, according to garment or fabric type, to apply the proper label:

- category 1: Garments made from fabric and trims that pass low flammability tests. Section 1 of the standard sets burning behaviour requirements in accordance with ISO 6941:2003 and specific stitching requirements for trims
- category 2: garments designed to limit the risk of flammability. Section 2 of the standard sets burning behaviour requirements, dimensional requirements, trims, fastenings, splits requirements
- category 3: furry all-in-one garments in sizes 00–2. Section 3 of the standard sets burning behaviour requirements

<sup>4</sup> Children's nightgowns, nightshirts, dressing gowns, bathrobes, housecoats, robes, pyjamas and baby-doll pyjamas in sizes up to and including 14.

<sup>5</sup> Sleepwear designed for infants weighing up to 7 kg, sleepwear designed for use in a hospital, polo pyjamas and sleepers.

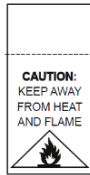
<sup>6</sup> Maximum extent of the damaged length of a material that has been subjected to the tests.

<sup>7</sup> Maximum extent of the damaged length of a material that has been subjected to the tests.

- category 4: garments that do not fit categories 1, 2 or 3. Section 4 of the standard sets burning behaviour requirements, restrictions on the use of fabrics with a high percentage of cellulosic, acetate or acrylic fibre content.

According to the standard, categories 1-3, with a low flammability risk, should be permanently labelled as follows:

- name or trademark of the manufacturer
- numerical garment size (in accordance with AS 1182)
- where a garment is made from fabrics that have been treated by chemical means to reduce the risk of burning, the care instructions suitable for preserving the treatment shall be provided
- the following warning:



The fire symbol shall have 10mm x 20mm minimum dimension.

The label shall be located inside the back neck of a top or one-piece garments. In pants, the label shall be located at the waist or waistband or at the top of the centre back seam.

Category 4, which presents a higher flammability risk, shall present the same information of the other categories, but the warning will be the following:



## SECTION 3: SUBSTANCES LIST; TABLE

Tab. 1 - ALKYLPHENOLS (AP)	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
4-(1,1,3,3-TetCopperthylbutyl)-phenol; 4-(t-Octyl)phenol	140-66-9	<p>Precursors of surfactant molecules in many detergents and dispersing agents.</p> <p>In textile production they can be used or found in non-ionic surfactants detergents with excellent solubilizing, emulsifying and dispersing properties.</p> <p>They are also found in abrasive agents, impregnating agents, emulsifiers / dispersants for colorants and prints, finishing auxiliaries, spinning oils, softeners, colorants and pigment preparations, polyester wadding, and down / feather fillings. They are also used in leather manufacturing as degreasing, emulsifying, and dispersing agents. They can be found from raw material to finished product.</p>
4-Nonylphenol (linear and branched)	25154-52-3	
4-Nonylphenol, (branched)	84852-15-3	
4-Octylphenol (linear)	1806-26-4	
Nonylphenol (NP)	104-40-5, Various	
Nonylphenol, branched	90481-04-2	
Octylphenol, branched	27193-28-8	
Octylphenol (OP)	Various	

Tab. 2 - ALCHIFENOLI ETHOXYLATES (APEO)	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
4-Nonylphenol, ethoxylated	26027-38-3	<p>Precursors of surfactant molecules. In textile production they can be used or found in non-ionic surfactants detergents with excellent solubilizing, emulsifying and dispersing properties. They are also found in abrasive agents, impregnating agents, emulsifiers / dispersants for colorants and prints, finishing auxiliaries, spinning oils, softeners, colorants and pigment preparations, polyester wadding, and down / feather fillings. They are also used in leather manufacturing as degreasing, emulsifying, and dispersing agents.</p>
4-Nonylphenol, ethoxylated, branched	127087-87-0	
4-Nonylphenyl-polyethylene glycol	9016-45-9	
Isononylphenol-ethoxylated	37205-87-1	
Nonylphenol Ethoxylates NPEO (1-18)	Various	
Octylphenol Ethoxylates OPEO (1-18)	Various	
Octylphenoethoxylate, branched	68987-90-6 e 9036-19-5	
Polyoxyethylene nonylphenylether, branched (NPEs 3-18)	68412-54-4	
Polyoxyethylene t-octylphenyl ether (OPEs 3-18)	9002-93-1	

Tab. 3 - ASBESTOS	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
Actinolite	77536-66-4	<p>ASBESTOS is a fibrous silicate mineral belonging to the mineralogical series of serpentine and amphiboles. Asbestos is resistant to fire, chemical and biological agents, abrasion, and wear; it has remarkable mechanical resistance and high flexibility due to its fibrous structure; it is sound-absorbing and heat-insulating. The fibers obtained by grinding the mineral can be spun to produce fire-resistant fabrics (such as those used for firefighters' garments) or furnishing fabrics. Now its usage is prohibited, it is not possible to find it in fabrics except in old, recycled fabrics.</p>
Amosite	12172-73-5	
Anthophyllite	77536-67-5	
Chrysotile	2001-29-5	
Crocidolite	12001-28-4	
Tremolite	77536-68-6	

Tab. 4A - PESTICIDES	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
2,4,5-T	93-76-5	<p>BIOCIDES are substances or mixtures used to destroy, eliminate, prevent the action and make harmless any harmful organism (such as bacteria, algae, insects, mites, animal or plant parasites, rodents). They can be used for the preservation of fibrous or polymerized materials such as leather, rubber, paper or textile products, by controlling the microbiological deterioration.</p> <p>They can be used to be incorporated into textiles, fabrics, masks, paints and other articles or materials in order to produce treated articles with disinfectant properties.</p> <p>Or even in additives for liquid detergents or in powdered laundry or in bleaches.</p> <p>PESTICIDES are synthetic or natural substances used for plant / animal treatments, aimed at protecting against diseases or parasites. (Herbicides, pesticides, insecticides, acaricides, fungicides).</p> <p>The possible presence in clothing, footwear, leather goods and accessories may be due to treatments of the raw materials or their use in the cultivation of vegetable textile fibers, or drugs for veterinary use in farms.</p>
2,4-D	94-75-7	
Aldrine	309-00-2	
Azinophosetyl	2642-71-9	
Azinophosmethyl	86-50-0	
Bromophos-ethyl	4824-78-6	
Captafol	2425-06-1	
Carbaryl	63-25-2	
Chlordane	57-74-9	
Chlordecone (Kepone)	143-50-0	
Chlordimeform	6164-98-3	
Chlorphenvinphos	470-90-6	
Coumaphos	56-72-4	

Tab. 4A - PESTICIDES	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
Cyfluthrin	68359-37-5	Wet treatments with temperatures above 80 ° C, carried out during the processing phases, generally eliminate these residues.
Cyhalothrin	91465-08-6	
Cypermethrin	52315-07-8	
DDD	53-19-0, 72-54-8	
DDE	3424-82-6, 72-55-9	
DDT	50-29-3, 789-02-6	
DEF	78-48-8	
Deltamethrin	52918-63-5	
Diazinon	333-41-5	
Dichlorprop	120-36-5	
Dicofol	115-32-2	
Dicrotophos	141-66-2	
Dieldrin	60-57-1	
Dimethoate	60-51-5	
Dinoseb and salts	88-85-7	
DTTB	57648-21-2	
Endosulfan	959-98-8	
Endosulfan (β)	33213-65-9, 115-29-7	
Endrine	72-20-8	
Esfenvalerat	66230-04-4	
Fenvalerate	51630-58-1	
Heptachlor	76-44-8	
Heptachlorepoxyde	1024-57-3	
Hexachlorobenzene	118-74-1	
α-Hexachlorcyclohexane	319-84-6	
β-Hexachlorcyclohexane	319-85-7	
δ-Hexachlorcyclohexane	319-86-8	
Lindane (g-HCH)	58-89-9	
Malathion	121-75-5	
MCPA	94-74-6	
MCPB	94-81-5	
Mecroprop	93-65-2	
Metamidophos	10265-92-6	
Methoxychlor	72-43-5	
Mirex	2385-85-5	
Monocrotophos	6923-22-4	
Parathion	56-38-2	
Parathion-methyl	298-00-0	
Permethrin	52645-53-1	
Phosdrin/Mevinphos	7786-34-7	
Profenophos	41198-08-7	
Propethamphos	31218-83-4	
Quinalphos	13593-03-8	
Toxaphen (Camphechlor)	8001-35-2	
Trifluralin	1582-09-8	
Halogenated biphenyls with formula c12hnx10-n; X = halogen. n. 1,2 ...9)		



Tab. 4A - PESTICIDES	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
Halogenated terphenyls with the formula c18hnx14-n; X = halogen, n. 1,2....13)		
Halogenated naphthalenes with the formula c10hnx8-n; X = halogen, n.1,2...7)		
Kelevane	4234-79-1	
Isodrine	465-73-6	
Strobane	8001-50-1	
Telodrine	297-78-9	
Diclorodifeniltricloroetano (DDT)	750-29-3	
Quintozene	82-68-8	
Triclosan	3380-34-5	
<b>Tab. 4B - BIOCIDES</b>		
2-Fenilfenolo/orto-fenilfenolo (OPP)	90-43-7	
2-Octil-2H-isotiazol-3-one (OIT)	26530-20-1	
2-(Tiocianometiltio)benzotiazolo (TCMTB)	21564-17-0	
4-Cloro-3-metilfenolo (PCMC)	59-50-7	

Tab. 5- CHLOROBENZENES AND CHLOROTOLUENES	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
Benzyl Chloride	100-44-7	<p>CHLOROBENZENES AND CHLOROTOLUENES are mainly used as intermediates in the synthesis of other chemicals or can be present as impurities in chemical formulations (such as those of colorants and biocides).</p> <p>They can be used as a carrier in the dyeing process of synthetic fibers, especially polyester, as swelling agents to spread the disperse dyes in the fibers and allow their absorption at low ambient temperature and pressure.</p> <p>They can also be used for dyeing some wool-polyester blends.</p> <p>Currently their use in Europe has been replaced by processes carried out under pressure and with the help of high temperatures.</p> <p>They can also be used as levelling agents for dyeing, printing, and coating of fabrics and leather, as degreasers, defoliant, fumigants, deodorants, solvents, disinfectants, insecticides, herbicides.</p>
Chlorotoluenes (isomers)	25168-05	
2-chlorotoluene	95-49-8	
3-chlorotoluene	108-41-8	
4-chlorotoluene	106-43-4	
Chlorobenzene	108-90-7	
Dichlorobenzenes (isomers)	25321-22-6	
1,2-dichlorobenzene	95-50-1	
1,3-dichlorobenzene	541-73-1	
1,4-dichlorobenzene	106-46-7	
Dichlorotoluenes (isomers)	29797-40-8	
2,3-dichlorotoluene	32768-54-0	
2,4-dichlorotoluene	95-73-8	
2,5-dichlorotoluene	19398-61-9	
2,6-dichlorotoluene	118-69-4	
3,4-dichlorotoluene	95-75-0	
Hexachlorobenzene	118-74-1	
Pentachlorobenzene	608-93-5	
Pentachlorotoluene	877-11-2	
Tetrachlorobenzenes (isomers):		
1,2,3,4-tetrachlorobenzene	634-66-2	
1,2,3,5-tetrachlorobenzene	634-90-2	
1,2,4,5-tetrachlorobenzene	95-94-3	
Tetrachlorotoluenes (isomers)		
a,a,a,2-tetrachlorotoluene	2136-89-2	
a,a,2,6-tetrachlorotoluene	81-19-6	
a,a,a,4-tetrachlorotoluene	5216-25-1	
2,3,4,5-tetrachlorotoluene	76057-12-0	
2,3,4,6-tetrachlorotoluene	875-40-1	
2,3,5,6-tetrachlorotoluene	1006-31-1	

Tab. 5- CHLOROENZENES AND CHLOROTOLUENES	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
Trichlorobenzenes (isomers)	12002-48-1	
1,2,3-trichlorobenzene	87-61-6	
1,2,4-trichlorobenzene	120-82-1	
1,3,5-trichlorobenzene	108-70-3	
Trichlorotoluenes (isomers)		
2,3,6-trichlorotoluene	2077-46-5	
2,4,5-trichlorotoluene	6639-30-1	
a,a,a-trichlorotoluene	98-07-7	

TAB. 6A – CARCINOGENIC DYES	C.I. No	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
Acid Orange 24	C.I. 20 170	1320-07-6	COLORANTS CARCINOGENIC or suspected carcinogenic other than those which may release carcinogenic aromatic amines. Mainly used in the dyeing of polyester and acetate but also of polyamide.
Acid Red 26	C.I. 16 150	3761-53-3	
Acid Red 114		6459-94-5	
Acid Violet 49		1694-09-3	
Basic Blue 26		2580-56-5	
Basic Green 4 (chloride)		569-64-2	
Basic Green 4 (free)		10309-95-2	
Basic Green 4 (oxalate)		2437-29-8; 18015-76-4	
Basic Red 9	C.I. 42 500	569-61-9	
Basic Violet 1		8004-87-3	
Basic Violet 3		548-62-9	
Basic Violet 14	C.I. 42 510	632-99-5	
Basic Yellow 2		24-6527-2	
Direct Black 28	C.I. 35 260	6745-67-1	
Direct Black 38	C.I. 30 235	1937-37-7	
Direct Black 91	C.I. 30 400	6739-62-4	
Direct Blue 6	C.I. 22 610	2602-46-2	
Direct Blue 15		2429-74-5	
Direct Blue 76	C.I. 24 411	16143-79-6	
Direct Blue 218	C.I. 24 401	28407-37-6	
Direct brown 95	C.I. 30 145	16071-86-6	
Direct Red 28	C.I. 22 120	573-58-0	
Disperse Blue 1	C.I. 64 500	2475-45-8	
Disperse Orange 11	C.I. 60 700	82-28-0	
Disperse Orange 149		85136-74-9	
Direct Yellow 1	C.I. 22 250	6472-91-9	
Disperse Yellow 3	C.I. 11 855	2832-40-8	
Disperse yellow 23	C.I. 26 070	6250-23-3	
Pigment Yellow 34	C.I. 77603	1344-37-2	
Pigment Red 104	C.I. 77 605	12656-85-8	
Solvent Blue 4	C.I. 44 045:1	6786-83-0	
Solvent Violet 8		561-41-1	
Solvent Yellow 1	C.I. 11 000	60-09-3	
Solvent Yellow 2		60-11-7	
Solvent Yellow 3		97-56-3	

TAB. 6B- ALLERGENIC DISPERSE DYES	C.I. No	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
Disperse Blue 1	C.I. 64 500	2475-45-8	<p>ALLERGENIC DYES are mainly disperse dyes: a class of dyes that penetrate the synthetic fibers without dissolving since they haven't polar for water solubilization. They are used for dyeing synthetic fibers such as polyester and polyamides. Some disperse dyes are also carcinogenic even though they do not contain azo groups capable of releasing carcinogenic aromatic amines (*).</p>
Disperse Blue 3	C.I. 61 505	2475-46-9	
Disperse Blue 7	C.I. 62 500	3179-90-6	
Disperse Blue 26	C.I. 63 305	3860-63-7	
Disperse Blue 35		12222-75-2	
Disperse Blue 102		12222-97-8	
Disperse Blue 106		12223-01-7	
Disperse Blue 124		61951-51-7	
Disperse Brown 1		23355-64-8	
Disperse Orange 1	C.I. 11 080	2581-69-3	
Disperse Orange 3	C.I. 11 005	730-40-5	
Disperse Orange 37/76/59	C.I. 11 132	13301-61-6; 12223-33-5; 51811-42-8	
Disperse Orange 149 (*)		85136-74-9	
Disperse Red 1	C.I. 11-110	2872-52-8	
Disperse Red 11	C.I. 62-015	2872-48-2	
Disperse Red 17	C.I. 11 210	3179-89-3	
Disperse Yellow 1	C.I. 11 855	119-15-3	
Disperse Yellow 3	C.I. 10 375	2832-40-8	
Disperse Yellow 9	C.I. 10 375	6373-73-5	
Disperse Yellow 39		12236-29-2	
Disperse Yellow 49		54824-37-2	
Disperse Yellow 56		54077-16-6	
Disperse Yellow 23 (*)		6250-23-3	
Solvent Yellow 14	C.I.C 12 055	842-07-09	

TAB. 6C – CLEAVABLE ARYLAMINES DERIVED FROM AZODYES	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
2-naphthylamine	91-59-8	<p>AROMATIC AMINES are aromatic hydrocarbons (with one or more benzene rings) to which at least one amino GROUP (NH<sub>2</sub>), an imino GROUP (NH) or a nitrogen atom has been added. Carcinogenic (or potentially such) aromatic amines can be released by reductive cleavage from some azo dyes (azoic group –N = N- between two aromatic rings_) or they can be detected as impurities.</p>
2-Naphthylammoniumacetate	553-00-4	
2,4-diaminoanisole sulphate	39156-41-7	
2,4-Xylidine	95-68-1	
2,6-Xylidine	87-62-7	
2,4,5-trimethylaniline	137-17-7	
2,4,5-trimethylaniline hydrochloride	21436-97-5	
3,3'-dichlorobenzidine; 3,3'-dichlorobiphenyl-4; 4'-ylenediamine	91-94-1	
3,3'-dimethoxybenzidine; o-dianisidine	119-90-4	
3,3'-dimethylbenzidine; 4,4'-bi-o-toluidine	119-93-7	
4-amino azobenzene	60-09-3	
4-chloro-o-toluidine	95-69-2	
4-chloro-o-toluidinium chloride	3165-93-3	
5-nitro-o-toluidine	99-55-8	
4-chloroaniline	106-47-8	
4-methoxy-m-phenylenediamine; 2,4-diaminoanisole	615-05-4	
4-methyl-m-phenylenediamine; 2,4-toluenediamine	95-80-7	
4-4'-methylenedianiline; 4-4'-diaminodiphenylmethane	101-77-9	
4,4'-methylenedi-o-toluidine	838-88-0	

TAB. 6C – CLEAVABLE ARYLAMINES DERIVED FROM AZODYES	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
4,4'-methylene-bis-(2-chloro-aniline); 2,2'-dichloro-4,4'-methylenedianiline	101-14-4	
4,4'-oxydianiline	101-80-4	
4-4'-thiodianiline	139-65-1	
6-methoxy-m-toluidine; p-cresidine	120-71-8	
benzidine	92-87-5	
biphenyl-4-ylamine; 4 aminobiphenyl; xenylamine	92-67-1	
o-aminoazotoluene; 4-amino-2',3-dimethylazobenzene; 4-o-tolyazo-otoluidine	97-56-3	
o-anisidine; 2-methoxyaniline	90-04-0	
o-toluidine; 2-aminotoluene	95-53-4	

TAB. 6D- OTHERS FORBIDDEN COLORANTS	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
Component 1: C39H23ClCrN7O12S 2Na	118685-33-9	
Component 2: C46H30CrN10O20S2 3Na		
Navy Blue	Component 1	

TAB. 7A- – PERFLUOROCTANE SULFONATES (PFOS) AND RELATED SUBSTANCES	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
1-Decanaminium, N-decyl-N,N-dimethyl-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptafluoro-1-octanesulfonic acid(1:1)	251099-16-8	<p>Polyfluorinated Chemical Compounds (PFCs) are a family of chemicals with carbon-fluorine bonds. They are used in the finishing of many industrial processes and in consumer products, as they give water-repellent, oil-repellent and stain resistance properties. PFOA can also be used in polymers such as polytetrafluoroethylene (PTFE).</p> <p>They are found as degradation residues of hydro and oil repellent resins applied to textile materials. They can be present in the environment as persistent pollutants and degradation products. To date, there are replacement products that allow their replacement.</p>
Bis(2-hydroxyethyl)ammonium perfluorooctane sulfonate (PFOS-NH-(OH) <sub>2</sub> )	70225-14-8	
N-Ethyl-Perfluorooctanesulfonamide (N-Et-FOSA)	4151-50-2	
N-Ethyl_Perfluorooctanesulfonamidoethanol (N-Et-FOSE)	1691-99-2	
N-Methyl-Perfluorooctanesulfonamide (N-Me-FOSA)	31506-32-8	
N-Methyl_Perfluorooctanesulfonamidoethanol (N-Me-FOSE)	24448-09-7	
Perfluorooctanesulfonamide (PFOSA)	754-91-6	
Perfluorooctanesulfonate (PFOS)	1763-23-1	
Perfluorooctane sulfonate ammonium salt (PFOS-NH <sub>4</sub> )	29081-56-9	
Perfluorooctane sulfonate K-salt (PFOS-K)	2795-39-3	
Perfluorooctane sulfonate Li-salt (PFOS-Li)	29457-72-5	
Perfluorooctanesulfonylfluoride (POSF)	307-35-7	
Tetraethyl ammonium perfluorooctane sulfonate (PFOS-N(C <sub>2</sub> H <sub>5</sub> ) <sub>4</sub> )	56773-42-3	

TAB. 7B – PERFLUOROCTANOIC ACID (PFOA) AND ITS SALTS	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
Perfluoro octanoic Acid (PFOA)	335-67-1	<p>Polyfluorinated Chemical Compounds (PFCs) are a family of chemicals with carbon-fluorine bonds. They are used in the finishing of many industrial processes and in consumer products, as they give water-repellent, oil-repellent and stain resistance properties. PFOA can also be used in polymers such as polytetrafluoroethylene (PTFE).</p> <p>They are found as degradation residues of hydro and oil repellent resins applied to textile materials. They can be present in the environment as persistent pollutants and degradation products.</p>
<b>PFOA SALTS</b>		
Ammonium perfluorooctanoate (APFO)	3825-26-1	
Ethanaminium, N,N,N-triethyl-, salt with perfluorooctanoic acid (1:1)	98241-25-9	
Perfluorooctanoic acid, silver salt (Ag-PFOA)	335-93-3	

TAB. 7B – PERFLUOROOCCTANOIC ACID (PFOA) AND ITS SALTS	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
Perfluorooctanoyl fluoride (PFOA-F)	335-66-0	To date, there are replacement products that allow their replacement.
Potassium perfluorooctanoate (K-PFOA)	2395-00-8	
Sodium perfluorooctanoate (Na-PFOA)	335-95-5	

TAB. 7C - PFOA RELATED SUBSTANCES	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
1H,1H,2H,2H-Perfluoro-1-decanol (8:2 FTOH)	678-39-7	<p>Polyfluorinated Chemical Compounds (PFCs) are a family of chemicals with carbon-fluorine bonds. They are used in the finishing of many industrial processes and in consumer products, as they give water-repellent, oil-repellent and stain resistance properties. PFOA can also be used in polymers such as polytetrafluoroethylene (PTFE).</p> <p>They are found as degradation residues of hydro and oil repellent resins applied to textile materials. They can be present in the environment as persistent pollutants and degradation products. To date, there are replacement products that allow their replacement.</p>
1H,1H,2H,2H,Perfluoro-1-octanol (6:2 FTOH)	647-42-7	
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	39108-34-4	
1H,1H,2H,2H-Perfluorodecylacrylate (8:2 FTA)	27905-45-9	
1H,1H,2H,2H-Perfluorodecyl metacrylate (8:2 FTMA)	1996-88-9	
1H,1H,2H,2H,Perfluorohexane-1-ol (4:2 FTOH)	2043-47-2	
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	757124-72-4	
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	27619-97-2	
1H,1H,2H,2H,Perfluorooctylacrylate (6:2 FTA)	17527-29-6	
1H,1H,2H,2H-Perfluorooctyl metacrylate (6:2 FTMA)	2144-53-8	
2H,2H--Perfluorodecanoic acid (H2PFDA)	27854-31-5	
2,3,3,3-tetrafluoro-2-(heptafluoro propoxy)propionic acid (HFPO-DA)	13252-13-6	
7H-Dodecafluoroheptanoic acid (7HPFHpA)	1546-95-8	
8:2 diPAP	678-41-1	
8:2 monoPAP	57678-03-2	
perfluorocarboxylic acids and salts (PFCA)		
Heptafluorobutyric acid (PFBA)	375-22-4	
Alcoli fluorotelomeri (FTOHs) F(CF <sub>2</sub> ) <sub>n</sub> CH <sub>2</sub> CH <sub>2</sub> OH		
Bis[2-(perfluorooctyl)ethyl] Phosphate (8:2 diPAP)	678-41-1	
C8-PFPA	40143-78-0	
C8-PFSi	3102-79-2 e vari	
Ethyl perfluorooctanoate (EtPFOA)	3108-24-5	
heptadecafluorooctanesulphonyl fluoride (PFOSF)	307-35-7	
HFPO-DA	13252-13-6	
N-Etil-Ethylperfluorooctanesulfonamide (N-Et-FOSA)	4151-50-2	
N-Ethyl-N-(2-hydroxyethyl)perfluorooctylsulphonamide (N-Et-FOSE)	1691-99-2	
N-Methyl-perfluorooctane-1-sulphonamide (N-Me-FOSA)	31506-32-8	
N-Methylperfluorooctanesulfonamidoethanol (N-Me-FOSE)	24448-09-7	
Methyl perfluorooctanoate (MePFOA)	376-27-2	
Mono[2-(perfluorooctyl)ethyl] Phosphate (8:2 monoPAP)	57678-03-2	
Fluorotelomer Olefins (FTOs)		
Perfluorobutane sulfonic acid (PFBS)	375-73-5 59933-66-3 749861-23-2	
Perfluorobutanesulfonate K-salt (PFHxS-K)	29420-49-3	
Perfluorodecanesulfonate ammonium salt (PFDS-NH <sub>4</sub> )	67906-42-7	
Perfluorodecanesulfonate Na-salt (PFDS-Na)	2806-15-7	
Perfluorodecanesulfonate K-salt (PFDS-K)	2806-16-8	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	
Perfluoroheptanesulfonate Na-salt (PFHpS-Na)	68555-66-8	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	
Perfluoroheptanoic acid (PFHpA)	375-85-9	

Perfluorohexanesulfonate Na-salt (PFHxS-Na)	82382-12-15
Perfluorohexanoic acid (PFHxA)	307-24-4
Polyfluorinated iodide (8:2 FTI)	2043-53-0
Polyfluorinated silanes (C8-PFSi)	3102-79-2 e Vari
Perfluorononanoate Na-salt (PFN)	21049-39-8
Perfluorooctanoyl fluoride (F-PFO)	335-66-0
Perfluorooctyl iodide (PFOI)	507-63-1
Perfluorooctyl phosphonic acid (C8-PFPA)	40143-78-0
Perfluoroottan sulfonamide (PFOSA)	754-91-6
Perfluoroottanoate ammonium salt (APFN)	4149-60-4
Perfluoropentanoic acid (PFPeA)	2706-90-3

TAB. 7D- PERFLUOROHEXANE-1-SULPHONIC ACID (PFHXS), ITS SALTS AND RELATED SUBSTANCES	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)	
<b>PFHXS AND ITS SALTS</b>			
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	<p>Polyfluorinated Chemical Compounds (PFCs) are a family of chemicals with carbon-fluorine bonds. They are used in the finishing of many industrial processes and in consumer products, as they give water-repellent, oil-repellent and stain resistance properties. PFOA can also be used in polymers such as polytetrafluoroethylene (PTFE).</p> <p>They are found as degradation residues of hydro and oil repellent resins applied to textile materials. They can be present in the environment as persistent pollutants and degradation products. To date, there are replacement products that allow their replacement.</p>	
Perfluorohexane Sulfonic acid, potassium salt (PFHxS-K)	3871-99-6		
Perfluorohexane Sulfonic acid, lithium salt (PFHxS-Li)	55120-77-9		
Perfluorohexane Sulfonic acid, ammonium salt (PFHxS-NH4)	68259-08-5		
Perfluorohexane Sulfonic acid, sodium salt (PFHxS-Na)	82382-12-5		
<b>PFHXS-RELATED SUBSTANCES</b>			
N-Methylperfluoro-1-hexanesulfonamide (N-Me-FHxSA)	68259-15-4		
Perfluorohexane sulfonamide (PFHxSA)	41997-13-1		

TAB. 7E – C9-C14 PERFLUOROCARBOXYLIC ACIDS (PFCAS) AND THEIR SALTS	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
Perfluorononanoic acid (PFHNA)	375-95-1	<p>Polyfluorinated Chemical Compounds (PFCs) are a family of chemicals with carbon-fluorine bonds. They are used in the finishing of many industrial processes and in consumer products, as they give water-repellent, oil-repellent and stain resistance properties. PFOA can also be used in polymers such as polytetrafluoroethylene (PTFE).</p> <p>They are found as degradation residues of hydro and oil repellent resins applied to textile materials. They can be present in the environment as persistent pollutants and degradation products. To date, there are replacement products that allow their replacement.</p>
Perfluorodecanoic acid (PFDA)	335-76-2	
Perfluoroundecanoic acid (PFUnA)	2058-94-8	
Perfluorododecanoic acid (PFDoA)	307-55-1	
Perfluorotridecanoic acid (PFTTrA)	72629-94-8	
Perfluorotetradecanoic acid (PFTeA)	376-06-7	
Perfluoro-3,7-dimethyloctanoic acid (PF-3,7-DMOA)	172155-07-6	

TAB. 7F – C9 – C14 PFCA-RELATED SUBSTANCES	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
1H,1H,2H,2H- Perfluorodecylacrylate (10:2 FTA)	17741-60-5	<p>Polyfluorinated Chemical Compounds (PFCs) are a family of chemicals with carbon-fluorine bonds. They are used in the finishing of many industrial processes and in consumer products, as they give water-repellent, oil-repellent and stain resistance properties. PFOA can also be used in polymers such as polytetrafluoroethylene (PTFE).</p> <p>They are found as degradation residues of hydro and oil repellent resins applied to textile materials. They can be present in the environment as persistent pollutants and degradation products. To date, there are replacement products that allow their replacement.</p>
1H,1H,2H,2H-Perfluorododecyl methacrylate (10:2 FTMA)	2144-54-9	
1H,1H,2H,2H,Perfluorododecane-1-ol (10:2 FTOH)	865-86-1	
2H,2H,3H,3H,-Perfluoroundecanoic acid (4HPFUnA)	34598-33-9	
1H,1H,2H,2H-Perfluoro-1-decanol (8:2 FTOH)	678-39-7	
1H,1H,2H,2H-perfluorotetradecan-1-ol (12:2 FTOH)	39239-77-5	
1H,1H,2H,2H-Perfluorododecanesulfonic acid (10:2 FTS)	120226-60-0	
1H,1H,2H,2H-Perfluorododecyl iodide (10:2 FTI)	2043-54-1	
1H,1H,2H,2H-Perfluorotetradecyl iodide (12:2 FTI)	30046-31-2	

TAB. 8 - ORGANOTIN COMPOUNDS	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
Bis(tributyltin)oxide (TBTO)	56-35-9	<p>Organic Tin compounds are compounds that contain at least one Tin-Carbon bond. They are used as fungicides in marine paints.</p> <p>In the clothing sector they can be used in plastic materials as thermal stabilizers for PVC production or as catalysts in the production of polymeric materials (polyurethane, polyester or silicone polymers). It is also possible to find them in inks, metallic glitter or in silicone-based finishing processes (due to their elastomeric properties and water repellency).</p> <p>They can also be used as biocides, fungicides or preservatives in fabrics and skin.</p>
Dibuthyltin (DBT)	1002-53-5; Various	
Dibutyltin dichloride (DBTC)	683-18-1	
Dibutyltin hydrogen borate	75113-37-0	
Dimethyltin (DMT)	23120-99-2, Various	
Diocetyl tin (DOT)	15231-44-4; Various	
Diphenyltin (DPHT)	1011-95-6; Various	
Dipropyltin (DPT)	2406-60-2	
Monobutyltin (MBT)	Vari	
Monomethyltin (MMT)	83221-98-1	
Monoocetyl tin (MOT)	15231-57-9	
Monophenyltin (MPHT)	2406-68-0	
Tetrabutyltin (TeBT)	1461-25-2; Various	
Tetraethyltin (TeET)	597-64-8; Various	
Tributyltin (TBT)	Vari	
Tricyclohexyltin (TCyHT)	6056-50-4; Various	
Trimethyltin (TMT)	17272-57-0; Various	
Triphenyltin (TPHT)	668-34-8; Various	
Tripropyltin (TPT)	761-44-4	
Triocetyl tin (TOT)	250252-89-2 Various	

TAB. 9 – PHTHALATES	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
1,2-Benzenedicarboxylic acid Dipentyl ester, branched and linear	84777-06-0	<p>Phthalic acid esters (phthalates) are a class of compounds used in the plastic industry as plasticizers to increase the flexibility and deformability of materials.</p> <p>They can be found in textile processes and shoe / leather goods processes in the stages of printing, coating / coating, varnishing, lacquering or even in plastics, adhesives, and glues.</p>
1,2-Benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters	68648-93-1	
1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters	68515-51-5	
Benzylbutylphthalate (BBP)	85-68-7	
Di-(2-ethylhexyl)-phthalate (DEHP)	117-81-7	
Di-(2-methoxyethyl)-phthalate (DMEP)	117-82-8	
Dibutylphthalate (DBP)	84-74-2	
Di-C6-8-branched alkylphthalates, C7 rich (DIHP)	71888-89-6	
Di-C7-11-branched and linear alkylphthalates (DHNUP)	68515-42-4	
Di-cyclohexylphthalate (DCHP)	84-61-7	
Di-ethylphthalate (DEP)	84-66-2	
Di-hexylphthalate, branched and linear (DHxP)	68515-50-4	
Di-iso-butylphthalate (DIBP)	84-69-5	
Di-isodecylphthalate (DIDP)	26761-40-0, 68515-49-1	
Di-iso-hexylphthalate branched and linear (DIHxP)	71850-09-4, 68515-50-4, 84-75-3	
Di-iso-nonylphthalate (DINP)	28553-12-0, 68515-48-0	
Di-isooctylphthalate (DIOP)	27554-26-3	
Di-isopentyl-phthalate (DiPP)	605-50-5	
Di-methylphthalate (DMP)	131-11-3	
Di-N-hexylphthalate (DNHP)	84-75-3	
Di-nonylphthalate (DNP)	84-76-4	
Di-n-octylphthalate (DNOP)	117-84-0	

TAB. 9 – PHTHALATES	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
Di-n-pentylphthalate (DnPP)	131-18-0	
Di-n-propylphthalate (DPrP)	131-16-8	
Di-pentylphthalate (n-, iso-, or mixed) (DPP)	131-18-0, 605-50-5, 776297-69-9, 84777-06-0	

TAB. 10- POLYCYCLIC AROMATIC HYDROCARBONS (PAH)	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
<b>GROUP A</b>		<p>They are hydrocarbons having a complex structure consisting of two or more aromatic rings. They can be present as impurities or as degradation products in some raw materials used in the production of chemical mixtures and dyes or originate in combustion processes.</p> <p>They are found in rubber, plastics as softeners or extenders, in plasticizing oils, lacquers, ash for black rubber pigment, in shoe soles and in printing pastes for screen printing.</p> <p>Naphthalene is mainly used as a raw material for the manufacture of synthetic tanning agents (synthanes) and for the manufacture of active substances in the dispersing agents used during leather processing.</p> <p>Dispersing agents for textile dyes may contain naphthalene residues as well as synthetic tanning agents (synthanes) used in tanning processes.</p>
Benzo(a)anthracene (BaA)	56-55-3	
Benzo(b)fluoranthene (BbFA)	205-99-2	
Benzo(j)fluoranthene (BjFA)	205-82-3	
Benzo(k)fluoranthene (BkFA)	207-08-9	
Benzo(a)pyrene (BaP)	50-32-8	
Benzo(e)pyrene (BeP)	192-97-2	
Chrysene (CHR)	218-01-9	
Dibenzo(a,h)anthracene (DBA <sub>h</sub> A)	53-70-3	
<b>GROUP B</b>		
1-Methylpyrene	2381-21-7	
Acenaphthene	83-32-9	
Acenaphthylene	208-96-8	
Anthracene	120-12-7	
Benzo(g,h,i)perylene	191-24-2	
Cyclopenta(c,d)pyrene	27208-37-3	
Dibenzo(a,e)pyrene	192-65-4	
Dibenzo(a,h)pyrene	189-64-0	
Dibenzo(a,i)pyrene	189-55-9	
Dibenzo(a,l)pyrene	191-30-0	
Fluoranthene	206-44-0	
Fluorene	86-73-7	
Indeno(1,2,3-c, d) pyrene	193-39-5	
Naphthalene	91-20-3	
Phenanthrene	85-01-8	
Pyrene	129-00-0	

TAB. 11- ISOCYANATES	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
1,6-hexamethylene diisocyanate trimer	28182-81-2	
1,6-hexamethylene diisocyanate biuret	4035-89-6	
2,6-Diisopropylphenyl isocyanate	28178-42-9	
4,4'-Methylendicyclohexyl diisocyanate-metilendicicloesil-di-isocianato (4,4'-MDI)	5124-30-1	
Diphenylmethane 2,2'-diisocyanate (2,2'-MDI)	2536-05-2	
Diphenylmethane 2,4'-diisocyanate (2,4'-MDI)	5873-54-1	
Diphenylmethane 4,4'-diisocyanate (4,4'-MDI)	101-68-8	
Hexamethylene diisocyanate (HMDI)	822-06-0	
Isophorone diisocyanate	4098-71-9	
MDI mixed isomers	26447-40-5	
Naphthylene-1,5-diisocyanate	3173-72-6	
Phenylisocyanate	103-71-9	



TetCopperthylxylene diisocyanate	2778-42-9	
Toluene-2,4-diisocyanate	584-84-9	
Toluene-2,6-diisocyanate	91-08-7	
Toluene-2,4/2,6-diisocyanate mixture	26471-62-5	

TAB. 12- PHENYLMERCURY COMPOUNDS	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
Phenylmercury 2-ethylhexanoate	13302-00-6	MERCURY COMPOUNDS can be found in paints and pesticides.
Phenylmercury acetate	62-38-4	
Phenylmercury neodecanoate	26545-49-3	
Phenylmercury octanoate	13864-38-5	
Phenylmercury propionate	103-27-5	

TAB. 13 - PENTACHLOROPHENOL (PCP) TETRACHLOROPHENOLS (TeCP) TRICHLOROPHENOLS (TriCP) DICHLOROPHENOLS (DCP) MONOCHLOROPHENOLS(MCP)	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
Trichlorophenol (TriCP), mixed isomers	25167-82-2	Chlorophenols are polychlorinated compounds, i.e., they are a GROUP of substances with chlorine atoms bounded to phenols. Pentachlorophenol (PCP) and tetrachlorophenols are used as preservatives and pesticides to prevent the formation of mold during the storage and transport of leathers, fabrics or as insecticides in the cultivation of cotton, or as impregnating agents in textile processes. They can also be found as impurities in dyes and preservatives in printing pastes.
2,3,5-trichlorophenol	933-78-8	
2,3,6-trichlorophenol	933-75-5	
2,4,5-trichlorophenol	95-95-4	
2,4,6-trichlorophenol	88-06-2	
3,4,5-trichlorophenol	609-19-8	
Tetrachlorophenol (TeCP), mixed isomers	25167-83-3	
2,3,4,5-tetrachlorophenol	4901-51-3	
2,3,4,6-tetrachlorophenol	58-90-2	
2,3,5,6-tetrachlorophenol	935-95-5	
Pentachlorophenol(PCP)	87-86-5	
Dichlorophenol (DCP), mixed isomers	25167-81-1	
2,3-Dichlorophenol	576-24-9	
2,4-Dichlorophenol	120-83-2	
2,5-Dichlorophenol	583-78-8	
2,6-Dichlorophenol	87-65-0	
3,4-Dichlorophenol	95-77-2	
3,5-Dichlorophenol	591-35-5	
Monochlorophenol, mixed isomers	25167-80-0	
2-Chlorophenol	95-57-8	
3-Chlorophenol	108-43-0	
4-Chlorophenol	106-48-9	
Triclosan	3380-34-5	

TAB. 14- POLYCHLOROBIPHENYLS (PCB) E POLYCHLORONAPHTHALENES (PCN)	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)	
<b>POLYCHLOROBIPHENYLS (PCB)</b>			
2,4,4'-trichlorobiphenyl (PCB 28)	7012-37-5	PCBs and PCNs are a class of organic compounds where the structure is similar to that of biphenyl and naphthalene, respectively, in which one or more hydrogen atoms are replaced by chlorine atoms. They are also used as additives in paints, pesticides, copying papers, adhesives, sealants, flame retardants and fixatives for microscopy.	
2,2',5,5'-tetrachlorobiphenyl (PCB 52)	35693-99-3		
3,3',4,4'-tetrachlorobiphenyl (PCB 77)	32598-13-3		
2,2',4,5,5'-pentachlorobiphenyl (PCB 101)	37680-73-2		
2,3,3',4,4'-pentachlorobiphenyl (PCB 105)	32598-14-4		
2,3,4,4',5-pentachlorobiphenyl (PCB 114)	74472-37-0		
2,3',4,4',5-pentachlorobiphenyl (PCB 118)	31508-00-6		
2',3,4,4',5-pentachlorobiphenyl (PCB 123)	65510-44-3		
3,3',4,4',5-pentachlorobiphenyl (PCB 126)	57465-28-8		
2,2',3,4,4',5'-hexachlorobiphenyl (PCB 138)	35065-28-2		
2,2',4,4',5,5'-hexachlorobiphenyl (PCB 153)	35065-27-1		
2,3,3',4,4',5-hexachlorobiphenyl (PCB 156)	38380-08-4		
2,3,3',4,4',5'-hexachlorobiphenyl (PCB 157)	69782-90-7		
2,3',4,4',5,5'-hexachlorobiphenyl (PCB 167)	52663-72-6		
3,3',4,4',5,5'-hexachlorobiphenyl (PCB 169)	32774-16-6		
2,2',3,4,4',5,5'-heptachlorobiphenyl (PCB 180)	35065-29-3		
2,3,3',4,4',5,5'-heptachlorobiphenyl (PCB 189)	39635-31-9		
<b>POLYCHLORONAPHTHALENES (PCN)</b>			
2-chloronaphthalene	91-58-7		
1,2-dichloronaphthalene	20250-69-3		
1,2,3-trichloronaphthalene	50402-52-3		
1,2,3,4-tetrachloronaphthalene	20020-02-4		
1,2,3,5,7-pentachloronaphthalene	53555-65-0		
1,2,3,4,5,6-hexachloronaphthalene	58877-88-6		
1,2,3,4,5,6,7-heptachloronaphthalene	58863-14-2		
Octachloronaphthalene	2234-13-1		

TAB. 15 - FLAME RETARDANTS	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
2-Ethylhexyl-2,3,4,5-tetrabromobenzoate (TBB)	183658-27-7	FLAME RETARDANTS are chlorinated brominated compounds or organophosphates (phosphoric acid esters), which are very stable and can reduce the spread of flame. Therefore, they are added to many products to make them less flammable. To date, their use in production processes is prohibited with rare exceptions. They were used in the production of clothing and shoes, as lubricating additives, in metalworking fluids, plasticizers for rubber, paints and adhesives.
2,2-Bis(bromomethyl)-1,3-propanediol (BBMP)	3296-90-0	
Bis(2-ethylhexyl)-2,3,4,5-tetrabromophthalate (TBPH)	26040-51-7	
Bis (2,3- dibromopropyl) phosphate (BIS-BP)	5412-25-9	
Boric Acid (HB)	11113-50-1; 10043-35-3	
Diboron trioxide (BTO)	1303-86-2	
Disodium Tetraborate (DBT)	12179-34-3; 1303-96-4; 1330-43-4	
Octabromodiphenyl ether (OctaBDE)	32536-52-0; 337513-72-1	
Heptabromodiphenylether (HeptaBDE)	446255-22-7; 0207122-16-5; 68928-80-3	
Hexabromodiphenylether (HexaBDE)	36483-60-0; 68631-49-2; 207122-15-4	
Nonabromodiphenylethers (NonaBDE)	Various	
Tetrabromodiphenyl ether (TetraBDE)	40088-47-9; 5436-43-1	
Decabromobiphenyl (DecaBB)	13654-09-6	
Decachlorobiphenyl (PCB)	2051-24-3	
Dibromobiphenyls (DiBB)	57422-77-2; Various	

Heptabromobiphenyls (HeptaBB)	88700-06-5, Various
Hexabromobiphenyl (HexaBB)	60044-26-0, Various
Monobromobiphenyl (MonoBB)	2052-07-5
Nonabromobiphenyls (NonaBB)	69278-62-2, Various
Octabromobiphenyls (OctaBB)	67889-00-3, Various
Pentabromobiphenyls (PentaBB)	59080-39-6, Various
Polybrominated Biphenyls (hexa-) (PBBs)	59536-65-1, Various
Tetrabromobiphenyls (TetraBB)	60044-24-8
Tribromobiphenyls (TriBB)	59080-34-1; Various
Tris-(aziridiny)-phosphineoxide (TEPA)	5455-55-1
Tris(2,3- dibromopropyl)phosphate (TRIS)	126-72-7
Decabromodiphenyl ether (DecaBDE)	1163-19-5
Tris (2- chloroethyl)phosphate (TCEP)	115-96-8
Tris-(2-chloro-1-methylethyl)phosphate (TCPP)	13674-84-5
Hexabromocyclododecane (HBCDD)	3194-55-6; 25637-99-4
Tetraboron disodium heptaoxide, hydrate (TBHO)	12267-73-1
Tetrabromobisphenol A (TBBPA)	79-94-7
Tetrabromobisphenol A bis(2,3-dibromopropyl ether) (BDDP)	21850-44-2
Tris (1,3- dichloro-2-propyl)phosphate (TDCPP)	13674-87-8
Tri-o-cresyl phosphate (o-TCP)	78-30-8
Pentabromodiphenyl ether (PentaBDE)	32534-81-9
Trixylyl phosphate (TXP)	25155-23-1
2,2-bis(bromoethyl)-1,3-propanediol (BBMP)	3296-90-0

TAB. 16 - SOLVENTS	CAS NUMBER	GROUP	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)	
<b>CHLORINATED SOLVENTS</b>				
$\alpha$ -chlorotoluene	100-44-7	A	<p><b>CHLORINATED SOLVENTS</b> They are halogenated aliphatic solvents with excellent properties in dissolving other substances and are also used as chemical intermediates (for example in pesticides and dyes), or as washing solvents and carriers in textile finishing, swelling in polyurethane foams, industrial detergents, in thermoplastic adhesives for printing works, as finishing and cleaning agents, in dyes.</p>	
1,1 dichloroethylene	75-35-4			
1,1,1 trichloroethane	71-55-6			
1,2,3-trichloropropane	96-18-4			
1,1,1,2 tetrachloroethane	630-20-6			
1,1,1,2 tetrachloroethane	79-34-5			
Carbon tetrachloride	56-23-5			
Hexachloroethane	67-72-1			
Pentachloroethane	76-01-7			
Tetrachloroethylene	127-18-4			
Trichloromethane (Chloroform)	67-66-3	B	<p><b>OTHER SOLVENTS</b> Organic SOLVENTS can be found in adhesives, colors, sprays, printing processes. Benzene and toluene are solvents commonly found in glues, while Dimethylformamide is commonly found in polyurethanes. Dimethylformamide (DMF) is also used as an organic solvent in the production of plastics, adhesives, and coatings. Due to their nature and uses, they may be contained in traces in many of the chemicals obtained by synthetic processes.</p>	
1,2 dichloroethane	107-06-2			
1,1,2 trichloroethane	79-00-5			
Methylene Chloride	75-09-2			
Trichloroethylene	79-01-6			
<b>VOC</b>				
Benzene	71-43-2			
Methyl alcohol	67-56-1			
N-exane	110-54-3			
Toluene	108-88-3			

OTHER SOLVENTS		
2-methoxyethanol	109-86-4	
Dimethylformamide (DMF)	68-12-2	
N,N-dimethylacetamide (DMAc)	127-19-5	
n-methyl-2-pyrrolidone (NMP)	872-50-4	
N-methylacetamide	79-16-3	
Nitrobenzene	98-95-3	
Xylenes (meta-, ortho-, para-)	1330-20-7;95-47-6; 108-38-3; 106-42-3	

TAB. 17 – DIOXINS AND FURANS	CAS NUMBER	GROUP	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
1,2,3,7,8-pentabromodibenzo-p-dioxin	109333-34-8	A	<p>They are polychlorinated aromatic chemical compounds formed by carbon, hydrogen, oxygen and chlorine, divided into two families: dibenzo-p-dioxins (properly "dioxins") and dibenzo-p-furans (or "furans").</p> <p>They are used for the production of wood preservatives, pesticides, in the leather and leather industry in general and in the plastics industry.</p>
1,2,3,7,8-pentachlorodibenzo-p-dioxin	40321-76-4		
2,3,7,8-tetrabromodibenzofuran	67733-57-7		
2,3,7,8-tetrabromodibenzo-p-dioxin	50585-41-6		
2,3,7,8-tetrachlorodibenzo-furan	51207-31-9		
2,3,7,8-tetrachlorodibenzo-p-dioxin	1746-01-6		
2,3,4,7,8-pentabromodibenzofuran	131166-92-2		
2,3,4,7,8-pentachlorodibenzo-furan	57117-31-4		
1,2,3,4,7,8-Hexachlorodibenzo-furan	70648-26-9	B	
1,2,3,4,7,8-hexabromodibenzo-p-dioxin	110999-44-5		
1,2,3,4,7,8-hexachlorodibenzo-p-dioxin	39227-28-6		
1,2,3,6,7,8-hexabromodibenzo-p-dioxin	110999-45-6		
1,2,3,6,7,8-hexachlorodibenzo-p-dioxin	57653-85-7		
1,2,3,7,8,9-hexabromodibenzo-p-dioxin	110999-46-7		
1,2,3,7,8,9-hexachlorodibenzofuran	57117-41-6		
1,2,3,7,8-pentabromodibenzofuran	107555-93-1		
1,2,3,6,7,8-hexachlorodibenzofuran	57117-44-9		
1,2,3,7,8,9-hexachlorodibenzo-p-dioxin	19408-74-3		
1,2,3,7,8,9-hexachlorodibenzofuran	72918-21-9	C	
1,2,3,7,8-pentachlorodibenzofuran	57117-41-6		
2,3,4,6,7,8-Hexachlorodibenzo-furan	60851-34-5		
1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin	35822-46-9		
1,2,3,4,6,7,8-heptachlorodibenzofuran	67562-39-4		
1,2,3,4,6,7,8,9-octachlorodibenzo-p-dioxin	3268-87-9		
1,2,3,4,6,7,8,9-octachlorodibenzofuran	39001-02-0		
1,2,3,4,7,8,9-heptachlorodibenzofuran	55673-89-7		

TAB. 18 - NITROSAMINES	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
N-nitrosodibutylamine (NDBA)	924-16-3	Organic compounds containing nitrogen bonded to a nitrous group linked to an amino nitrogen. NITROSAMINES are mainly used to give different properties to natural and synthetic rubber. They are used as constituents of accelerators, antioxidants and reinforcing agents, to give strength and elasticity to the final product. They can also be generated, starting from their precursors, as secondary products of the production and storage processes of rubber (for example in rubber used for shoe soles)
N-nitrosodiethylamine (NDEA)	55-18-5	
N-nitrosodimethylamine (NDMA)	62-75-9	
N-nitrosodipropylamine (NDPA)	621-64-7	
N-Nitrosoethylphenylamine (NEPhA)	612-64-6	
N-nitroso-N-methylaniline	614-00-6	
N-nitrosomorpholine (NMOR)	59-89-2	
N-nitrosopiperidine (NPIP)	100-75-4	
N-nitrosopyrrolidine	930-55-2	
N-nitroso-N-ethylaniline	612-64-6	

TAB. 19 - BISPHENOLS	CAS NUMBER	DESCRIPTION AND USAGE (FOR REFERENCE ONLY, NOT EXHAUSTIVE)
4,4'-isopropylidenediphenol (Bisphenol A - BPA)	80-05-7	BISPHENOLS are organic molecules composed of two phenolic groups linked together. They are used to produce polymers and resins, which in turn are used in the production of plastics. They are part of a broad category, to which many substances with similar chemical structures and uses belong. They are mainly found in materials containing polycarbonate and/or epoxy resins as well as in thermal paper, inks and tanning agents for the leather industry.
4,4'-(1-methylpropylidene)bisphenol (Bisphenol B - BPB)	77-40-7	
4,4'-sulphonyldiphenol (Bisphenol S - BPS)	77-40-7	
4,4'-methylenediphenol (Bisphenol F - BPF)	620-92-8	
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol (Bisphenol AF - BPAF)	1478-61-1	

Place and date

stamp and signature of the Supplier

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